

WORLD WATER WEEK 2019

# Water for society: Including all

————— OVERARCHING CONCLUSIONS



# Creating lasting change

**Dear Friends of water! Thanks to all of you who contributed to making World Water Week 2019 such a success.**

No matter what way you look at it, this year's World Water Week really stands out. It attracted a record number of 4,000 participants from 138 countries, who had more sessions than ever to choose from. At the same time, we experimented with new forms of content, from movie nights to innovative formats to create a learning experience.

Two things made this possible. Moving to a new venue was of course crucial to realizing our ambitions, since the spacious Tele2 Arena in Stockholm offers a new level of flexibility. Equally important was something that will not be allowed to change – that special World Water Week spirit, which enables participants to learn from one another.

This focus on inclusion is key to creating a successful conference, where everyone gets a chance to contribute. It is also the essence of successful water governance, which was explored in many sessions related to the theme of *Water for society: Including all*. There is an urgent need for improved management of water, and this is only possible if all experiences are taken into consideration.

For World Water Week to be relevant, we

must ourselves reflect this diversity and for the past few years this is something we have worked hard to achieve. The Gold Standard, which encourages interaction and ensures a high number of young and female panelists, has received broad support. This year, 73 per cent of sessions adhered to the standard. Scholarships and partnerships make the week accessible to participants and journalists from low-income countries. A growing number of sessions are open to the public, either online or on site.

We are now beginning to see results. The gender gap is closing, with women making up more than 48 per cent of participants. World Water Week is the conference of choice among young water professionals, who now represent one third of participants. We're an increasingly diverse conference, where the world's most prominent water experts mix with government officials, leading NGOs, the business sector, multilateral and international organizations, outstanding scientists and grassroots activists to share experiences and work on concrete solutions.

This is a true measure of success – that World Water Week can facilitate the rapid global spread of ideas and best practices at a time when we need to accelerate action. In 2019 we took great steps in that direction. Thank you for your contributions to creating lasting and meaningful change!



**TORNGNY HOLMGREN**  
Executive Director  
Stockholm International Water Institute

# Contents

World Water Week in numbers	6
What participants said	8
Inclusion is key to addressing today's challenges	10
Scientific lessons about inclusion	12
The 2019 seminars	14
Reflections from rapporteurs	18
Stockholm Water Prize	28
Stockholm Junior Water Prize	30
Statement from the Stockholm Junior Water Prize winners 2019 to World Water Week in Stockholm	32
Outreach	36
World Water Week Journalist Grant	37
Partners	38
World Water Week 2020	40

Copyright © 2019, Stockholm International Water Institute, SIWI  
Photos: iStock unless otherwise stated.

For the latest information see [www.worldwaterweek.org](http://www.worldwaterweek.org)

# World Water Week 2019

*a smashing success!*

With **4,000** participants, **277** sessions, **74** exhibitors and **578** convening organizations, World Water Week broke several records and experimented with new formats. In this report you can read about what happened during this amazing Week and find takeaways from the scientific seminars on the important theme *Water for society: Including all*.

## THE WORLD WATER WEEK VILLAGE

In 2019, World Water Week relocated to a new venue, the **Tele2 Arena** in Stockholm, making it possible to create a collaborative and even more inclusive learning experience. Tele2 Arena allowed for greater flexibility and more networking opportunities, with a World Water Week village at its centre. Several sessions were opened to the public and young professionals could join one day for free and, for the first time, they had three days to choose from.

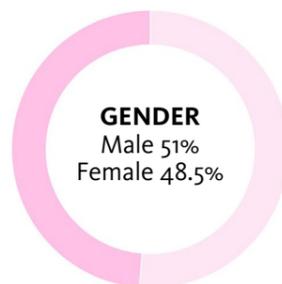
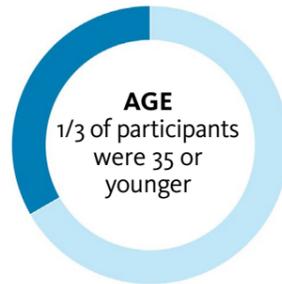
## GOLD STANDARD

This year, 73 per cent of all sessions adhered to the Gold Standard, meaning that at least 40 per cent of presenters were female, at least one presenter was under 35, and the session was designed to encourage audience participation.

## THIS HAPPENED DURING THE WEEK



\*27 sessions in total



## PARTICIPANTS BY REGION (TOP 10)

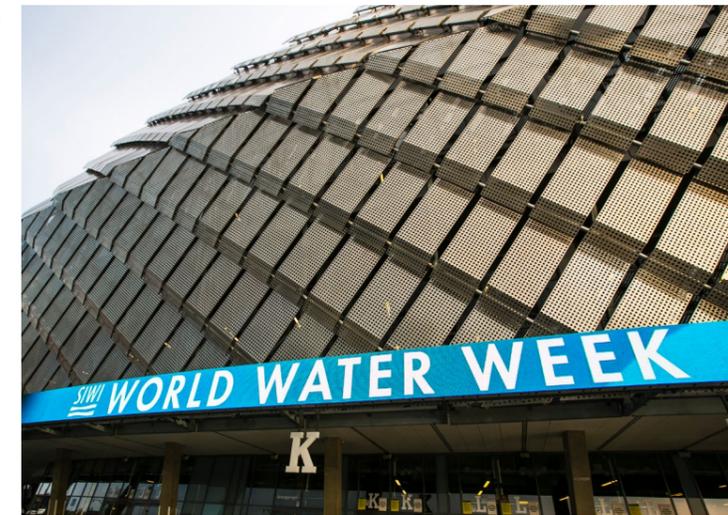
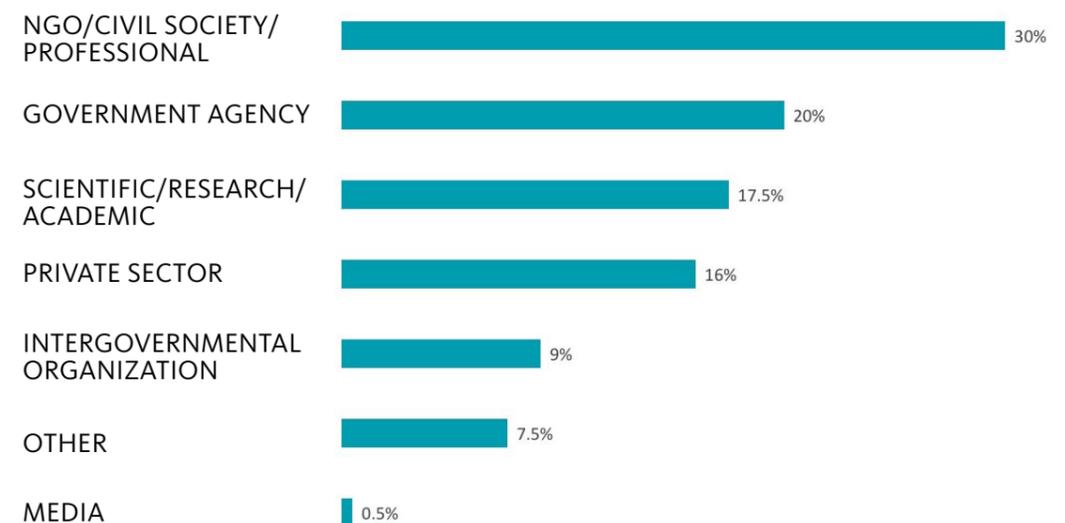


PHOTO: MIKAEL ULLÉN

## PARTICIPANTS BY ORGANIZATION





# Inclusion is key to addressing today's challenges

Many speakers at World Water Week 2019 noted how we're rapidly running out of time. In the coming decade we need to reverse the dangerous trends on global warming and environmental degradation, while also shifting into a higher gear to reach the goals set out in the 2030 Agenda.

It is sometimes argued that this level of ambition is unrealistic and that we may have to accept that we will not be able to also deliver on all the Sustainable Development Goals. But this rests on a false assumption – it is not possible to tackle for example climate change by ignoring other goals. As demonstrated in session after session during World Water Week 2019, humanity's greatest challenges are interlinked. Only when we realize this can we find sustainable solutions to climate change, poverty, conflicts, food insecurity, disaster risks, the rapid loss of species, or any other major threat.

The theme of World Water Week 2019, *Water for society: Including all*, sheds light on these complex interlinkages and shows how water can be a common denominator that provides necessary solutions. Here are a few of the most important takeaways.

## INCLUSION FOR EFFICIENCY

The escalating water crisis requires intensified focus on good water governance, to make sure that there is enough clean water for the many competing needs. The largest water users – often private sector actors, not least agriculture – must be actively engaged in discussions on water. During World Water Week companies shared best-practice solutions but also talked about a need for clearer standards, more transparent regulation and improved water management.

## NOTHING ABOUT US WITHOUT US

Another reason to broaden the scope of the water debate is to ensure more informed decision-making, with the people directly affected by different policies having a say. The expression “nothing about us without us” was frequently used to underline how people living with disabilities, ethnic minorities, slum-dwellers, the elderly and other groups should be viewed as experts on their own needs when it comes to water and sanitation. Many sessions were dedicated to sharing the knowledge of different groups. Other activities focused on how

gender roles and power relations impact who gets what water, reminding participants that efficient water governance may require the challenging of traditional stereotypes.

## CLOSING THE GAP

There is growing concern that climate change hurts poor and marginalized groups disproportionately and could push millions of people back into poverty. Without action, we can expect widening gaps between countries and regions. Many speakers at World Water Week described this as not only unfair – the poorest typically have contributed very little to climate change – but also as a threat to effective policy. If societies will not adapt to become more resilient to extreme weather events and unpredictable rainfall patterns, the result could be hunger, the spread of diseases, unrest, forced migration, and drastically reduced economic growth, with consequences all over the world.

## THE ROLE OF COUNTRIES AND CITIES

World Water Week has long been an important arena for collaboration between cities, regions and countries, but this is taking on a new significance when the world needs to undergo a very rapid transformation. Sessions this year explored how cities and water management can become more inclusive and resilient. Decision-makers, civil society groups and academics testified how important it is that ideas and solutions can spread this way. Compared to previous years, there was also much discussion about the importance of political leadership to build necessary momentum.

## INNOVATIONS & BEHAVIOUR IN FOCUS

Innovations and showcases continue to generate much interest. Solutions to shared problems are starting to get more attention, for example tools to mitigate water conflict risks, early-warning systems for disaster-prone regions, updated methods to measure water quality and new technologies for weather forecasts and adaptation. Research on human behaviour is also increasingly seen as a tool for policy makers.

## LIVING WITH NATURE

Water quality, emerging pollutants, biodiversity and plastics were high on the World Water Week agenda this year. Many speakers also referred to the study of environmental flows, which has been advanced by the 2019 Stockholm Water Prize laureate Dr Jackie King. She described the prize as an important recognition of the role of rivers and of the people living alongside them. In Dr King's view, awareness is growing of how humans depend on the ecosystems that surround us. Many speakers also described the role of indigenous groups as custodians of nature and noted how their knowledge is now increasingly taken up by for example the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

## NEW VOICES SPEAKING UP

One of the most noticeable trends is how World Water Week is increasingly attracting speakers and participants from outside the traditional water community. This year sessions on for example food and energy benefited from such new perspectives.

Another important shift is the growing interest in water among young people, who now make up one third of participants. World Water Week continues to evolve as a meeting place for young professionals and water advocates from around the world. Stockholm Junior Water Prize has also expanded its activities, which this year included a scientific seminar, the Malin Falkenmark Symposium, where the young scientists made a statement expressing their concern about the climate crisis.

This new activism among the young is likely to be a trademark also of next year's World Water Week, which will be held on the theme *Water and climate: Accelerating action*.



# Scientific lessons about inclusion

The scientific core of the Week is the seminars, which this year focused on the theme of *Water for society: Including all*. Nine seminars were held with 27 sessions and 37 keynote presentations. The seminars were co-convened by SIWI and 37 international organizations.

The seminar programme is developed by the **Scientific Programme Committee**, consisting of leading scientists from the water and development fields, who determine the seminar topics and select from submitted abstracts. On pages 14-17 you can learn more about their work and read reflections from Torkil Jøneh Clausen, head of the Committee.

The **Young Scientific Programme Committee**, comprised of nine committed young professionals, supports the Scientific Programme Committee with invaluable input during the selection and development process.

Another important role is performed by the **Rapporteurs** who document all sessions during World Water Week. The rapporteurs divide into three teams, focusing on Economic, Environmental and Social perspectives, and attend all sessions to collect ideas and solutions.

On pages 18-27 you can read their reflections, based on four questions.

JOIN US IN 2020!

The submission period to join the Rapporteurs team opens in April.



PHOTO: MIKAEL ULLÉN

## ECONOMIC TEAM

**Senior rapporteurs:** Rami Narte, Christian Vouvouras

**Junior rapporteurs:** Urangoo Bulgamaa, Nicholas Chow, Camila Dalla Porta Mattiuzi, Amanda Fehler Vallgård, Victor Khodayar-Pardo, Adryan Sasongko, Lovisa Sommerholt

## ENVIRONMENTAL TEAM

**Senior rapporteurs:** Theresa Wasike, Alex Whitebrook

**Junior rapporteurs:** Anya Eilers, Chipango Kamboyi, Sara Löwgren, Ilaria Di Meo, Sabrina Noël Reaume Zabalgoitia, Dennis Schmiege, Liubov Shkurenko

## SOCIAL TEAM

**Senior rapporteurs:** Jovana Garzon Lasso, Muna Musnad

**Junior rapporteurs:** Katrine Adelheid Jørgensen, Javed Ali, Christelle Comair, Ajay Korpai, Idun Rognerud, Kitty Selkirk, Mackenzie Schiff

# The 2019 seminars

TORKIL JØNCH CLAUSEN ON BEHALF OF THE SCIENTIFIC PROGRAMME COMMITTEE

The nine SIWI Seminars addressed key aspects of the Week's theme *Water for society: Including all*. They were co-convened by SIWI and 37 international organizations and featured some 37 keynote presentations along with 97 presentations selected from the 424 abstracts submitted. Round-table discussions, high-level panels and more ensured active participation of participants throughout the Week. Brief key messages from the Seminars are provided below.

## **WOMEN AND YOUTH: LIVING APART TOGETHER**

**| Women and youth encounter distinctive challenges in their fight for equality within the water sector. However, the stark reality is that gender and age-related disparities still characterize a masculine dominated water sector and challenge the tokenism of women and youth inclusion. Intersectionality and diversity considerations are needed at all phases of water programmes to ensure that the voices of women and youth are heard and considered. Safe spaces must be created while empowering women and youth to ensure their equal participation. To do this, shifts in policy discourse, actors, power relations as well as equitable distribution of development aid are required. The involvement of men and boys in gender mainstreaming efforts is also critical to ensuring gender equality.**

## **WATER GOVERNANCE WITH AND FOR ALL: IS IT WORKING?**

**| The complex path in water governance architecture goes from design and development to the implementation of water policy, including institutional, economic and social dimensions of water management. Experiences showed both successful practices and failures. Efficiency is a preferred goal of water allocation, however, not always equitable. We still struggle with the challenge of addressing what works and what doesn't, and how we can go about improving water governance arrangements in different contexts.**

There is a need to enhance and appropriately balance equity, efficiency and enforceability in water governance arrangements. However, it appears evident that with targeted action at the community level, recognition of social values, and appropriate use of political tools, inclusive water governance for all by 2030 is indeed achievable.

## **SANITATION FOR SOCIETY, INCLUDING ALL**

**| Sanitation is a human right, no matter who you are and where you live. Everyone has a right to safe, clean and affordable sanitation. This should not only consist of toilets but of access to the entire service chain. Inclusive sanitation makes economic sense. Excluding people within service areas is inefficient. The cost of raising access for the excluded is small compared to the huge benefits it brings for health and economy. This is only possible when and where sanitation services exist for the entire population and are linked to other basic services. People's voices matter, and they should be at the centre of decision-making about planning and delivery of their sanitation services, holding the providers and the local governments accountable. Often the most appropriate and sustainable solutions can be found locally, through people's innovations and partnerships.**

## **TRANSFORMING SOCIETIES TO MEET THE SDGs: THE ROLE OF FINANCE**

**| Finance has the potential to promote transformation. However, without a substantially deeper understanding of the different funding and financing options by water professionals, the sector will not be able to mobilize and scale up finance. Several examples, for instance from successful public-private partnerships, illustrate that risk allocation and clear returns for investors are two critical conditions to enable finance for water. Investments providing small financial rates of return but large values to society, such as basic health provisioning and risk reduction in subsistence agriculture, are largely lacking at scale. Public funding, through efficient subsidies, is vital to underpin societal transformations in these instances. Without the proper enabling environment, financial flows will continue to bypass the water sector.**

## **WATER (IN)SECURITY, MIGRATION AND REGIONAL INTEGRATION: IS THERE A NEXUS?**

**| Water security is a precondition for human security. Coupled with migration, this is a complex narrative that often presents inconclusive linkages between context specific drivers and dynamics. The nuanced relationships between migration and water are thus often oversimplified, increasing the risk of politically driven water governance, and maladaptive solutions. Water professionals are central to resolving simplistic media and political narratives about migration and water (in)security – and in promoting regional integration. Demographic shifts, including large-scale migration, increase vulnerability, and place additional pressure on resources and utilities. Supporting water security can also help reduce (forced) displacement. Managing increasing migration in a future affected by climate change pivots on regionally**





integrated responses to water, energy, food and environmental security – where everyone enjoys the benefits, and ideally all are protected from risks.

**EQUITY IN CLIMATE CHANGE ADAPTATION** | Climate change is exacerbating vulnerability, but it is human action that governs the scale of impact it causes on local and global communities. Thus, the power to do something is in our hands. We need to change the common perception of vulnerable people: they are positive agents of change rather than passive receivers of help. Empowerment and inclusiveness are fundamental to achieve equity and resilience for societies and people. Many initiatives around the world have demonstrated the potential for embedding equity into climate change adaptation and water action. Tools are available and ready to make a difference at scale today – we must share them, tailor them for the right context and use them in an inclusive manner.

**ENTREPRENEURSHIP DRIVING WATER IMPACT FOR ALL** | The SDGs cannot be met unless entrepreneurs accelerate innovation and participate in the application of new technologies to difficult water, sanitation and health problems. Innovations have to provide simple, low-cost, widely applicable, and sustainable solutions. They must capture the imagination of potential beneficiaries and be readily embraced by them. The water community has acted in silos. Often, partnership agreements have remained dead letters. This has to change. We need broader and deeper partnerships between entrepreneurs, governments, utilities, and beneficiary communities. Entrepreneurs are crucial partners in this endeavor; let them be sought out, encouraged, and engaged.

The role of development finance institutions is key. Efficiencies across value chains in the water sector must be maximized; this will happen only if the finance institutions coordinate, nurture, and guide the actors in the entrepreneurship ecosystem.

**LINKING BIODIVERSITY WITH INCLUSIVE DEVELOPMENT: WHY IT MATTERS** | The window of opportunity to prevent irreversible damage to the planet and humanity is narrowing quickly. To trigger action on the post-2020 biodiversity framework and achieve the SDGs, a “Stern report” assessing costs and putting a price tag on aquatic ecosystem services and inaction is imperative. Harnessing traditional ecological knowledge of ‘unconventional’ agents of change, such as indigenous peoples, women and children, and citizen-sourced data, can significantly contribute to integrate the views and livelihood needs of communities affected by conservation decisions. That will contribute to engaging them actively in monitoring, restoration, and decision-making. Raising awareness on human rights, the rights of nature, and the economic and social value of biodiversity and freshwater eco-systems facilitates multi-stakeholder collaborations and provides tools to demand action. Actionable, measurable and equitable targets that underpin the linkages

between people and nature, especially in freshwater systems, are pivotal also to the SDGs.

**INNOVATION: BUSINESS AS UNUSUAL IN 21ST CENTURY: GREY, GREEN OR IN-BETWEEN?** | Global urbanization trends, outdated water policies and climate change are making it more challenging to achieve the SDGs, not least SDG 6. Innovative approaches have proven to be more effective, less expensive, and demand shorter time frames of implementation to improve lives and the environment. Innovation is the pathway towards resilience when facing these challenges. However, technological innovations by themselves cannot and will not deliver the water-related SDGs. Innovation requires participation from all parts of society, with diverse stakeholder groups bringing different skills and capabilities to solving and scaling solutions. While innovative approaches can be more effective, in the short to medium term there are many barriers and enablers for implementation that are to be considered; therefore, finding the adequate balance requires the existence of an ecosystem to incubate, foster, and accelerate innovation.

## In summary,

Managing water for society calls for making water flow as the connector through the 2030 Development Agenda, in a way that leaves no-one behind and includes all in the process.

# How can water play a pivotal role in addressing inequalities, discriminatory practices and unjust distributions of power to ensure implementation of the 2030 Agenda?

## ● **ECONOMIC:** A GROWING ROLE FOR PRIVATE ACTORS, LARGE AND SMALL

New business models and strategies are bringing us closer to achieving the 2030 Agenda. These models and strategies are increasingly driven by private sector engagement in water stewardship. This will likely result in water playing a key role in addressing some of the systemic economic and environmental inequalities that have tended to affect manufacturing-based economies.

The emergence of new approaches has in part been due to an increasingly well-informed consumer base, as well as internal pressure from consumers employed in the private sector who see an opportunity for their companies to demonstrate leadership and responsible stewardship. The idea of water stewardship has taken hold in the private sector, with the role of stewardship generally considered to fall somewhere between profit-making and philanthropy.

With the help of standards such as the Alliance for Water Stewardship (AWS), some private sector actors are taking steps to reduce their negative

impacts in terms of water by improving resilience and, crucially, by recognizing their responsibility for communities and watersheds with which they share space and resources. While large private entities have the capacity to bring about tipping-point change, smaller private actors are also potential champions in the race towards 2030, especially in addressing rural challenges and ultimately progress towards water for all.

## ● **ENVIRONMENT:** NEED FOR IMPROVED INTERNATIONAL ACTION

A vital transboundary resource, water can cause conflict or exacerbate existing rivalries. However, water also offers opportunities to catalyze cooperation between groups to achieve sustainable water management through shared responsibility, extending to empowering historically marginalized groups. Often, those who bridge people and their environment are indigenous groups and women, who have invaluable knowledge that should not be ignored or overlooked.



For these collaborative relationships to survive and to reduce inequality, they must involve all stakeholder groups across multiple levels of governance. Effective protection of water environments is attainable when stakeholders communicate, trust each other, and ensure accountability within and between groups.

The international community needs to take a strong stand when, in conflict situations, states target and destroy civilian water supplies and catchments as evidence of these human rights violations are often covered up.

In addition to reforming existing institutions regarding how they deal with water issues, environmental education can be an extremely powerful tool to address inequality. This is particularly the case when teaching is made available to children from a young age. Shaping perceptions and mindsets held about groups that tend to be discriminated against, for example sanitary workers, as well as perspectives on the importance of water catchments, can have a positive effect on future generations.

## ● **SOCIAL:** WATER AS THE “BLUE THREAD” THROUGHOUT THE 2030 AGENDA

As a prerequisite for achieving the 17 SDGs of the 2030 Agenda, water is increasingly seen as the “blue thread” connecting many of the goals. However, “Including all” – the theme of this year’s World Water Week and the foundation of the 2030 Agenda – remains a utopian vision in the case of water.

Access to water remains far from universal, and those typically “left behind” are often disproportionately impacted by insufficient access to water. Improved management of water, particularly when guided by SDG 6, can therefore open up multiple spaces for empowerment.

Water holds the potential to be an equalizer: a catalyst for change. However, improved water access alone does not necessarily translate into greater equality. All efforts to achieve SDG 6 must be coupled with participatory approaches that ensure all stakeholder voices are heard, reflecting one of the key messages of World Water Week’s Opening Plenary: “nothing about us without us”.

# How does water contribute to achieving equal power relations that, by including everybody, ensures fairness and breaks inequality barriers preventing human rights and welfare for all?

## ● **ECONOMIC:** SHIFTING POWER IMBALANCES

Water is an ideal tool to help achieve more equal power relationships. A key theme at World Water Week 2019 was how shifts in power balances could be achieved through local ownership of projects at entrepreneur and community levels. Strategies to enable such changes will require transparency to build trust in collaboration, not only among water actors but across all sectors that water engages with.

Data has intrinsic value in terms of education and communication, but when coupled with transparency, data becomes a powerful tool to combat misinformation. Today, changing perceptions based on misinformation is more critical than ever, and especially so in conflict and transboundary water situations.

Through ownership and entrepreneurship, local people can be empowered not only to support themselves, but also to invest in their communities. Investment in innovation and multi-stakeholder

partnerships increases the likelihood of success.

At community level, water is set to play an important role in ensuring lasting behavioural change in the face of challenges such as reducing open defecation and increasing the acceptability of micrometres to promote water conservation.

Water also has the potential to impact inequality through the wastewater sector as it brings its workers greater economic empowerment and improved safety in the workplace. However, it is also necessary to confront harmful societal stigmas associated with wastewater and with people who work in the wastewater sector.

## ● **ENVIRONMENT:** ACCESSIBLE DATA, USEABLE TOOLS, LOCAL KNOWLEDGE

If we are to realize universal access to water and sanitation, we must begin to work on ensuring that existing policies and legislation protecting the human right to water are enforced. Sustainable outcomes can be achieved by assuring local community ownership over projects and

governance of water affairs. It is imperative to engage with communities from the outset and throughout every stage of any project's lifecycle.

The importance of integrating indigenous and local knowledge into policies and strategies to develop appropriate interventions for resilience against the climate crisis was highlighted throughout the Week. One way to support communities in planning and governing water use is to jointly with communities identify the most relevant information, blend this with global data on water, and deliver projects through simple, accessible, and interactive platforms.

Accessible data and usable tools, based on local knowledge and contexts, are fundamental to addressing inequality, and can transform water management into a catalyst for inclusive development.

## ● **SOCIAL:** AN OPEN, ENABLING ENVIRONMENT

Good water governance is key to ensuring inclusive sustainable development that “leaves no one behind”. An open enabling environment is vital for tackling inequality through water governance, requiring political buy-in, transparency, capacity building, data sharing and multi-stakeholder participation.

A systematic human rights-based approach that includes universal rights to water in legislation and policy can provide a legal starting point for breaking down barriers to equitable participation. Water policies must recognize the diverse needs of disadvantaged groups, whether addressing gender inequality, rural-urban disparities, rights of indigenous groups, disabled people or other vulnerable sections of society.

An increasing number of countries are committing to inclusive policies aimed at reaching those who have been ‘left behind’. However, these commitments must be backed up by targeted implementation plans, funding and capacity building to enable responsible entities to act on their mandates.

Furthermore, transparency is vital for good governance. Open access data and auditing not only enables evidence-based decision-making but also function as powerful accountability tools. Engaging existing civil society organizations and community groups in management is vital to long-term sustainability and equity. As vulnerable groups might have limited capacity to engage, providing resources and training in advocacy is crucial for breaking down barriers to participation.



# In a world with climate change, how can we maintain healthy ecosystems for people and nature? More specifically, how can water be managed to better ensure healthy ecosystems that contribute to prevent forced migration?

## ● **ECONOMIC: CROSS-SECTOR COOPERATION**

Understanding how water stress influences jobs and financially addressing these issues can empower workers by improving job security. Technological innovations and smart wastewater management offer ways to improve water equity (among groups of people and for natural ecosystems). Such approaches can also generate self-sustaining jobs and achieve water resilience.

Companies need to be aware of their impact throughout the entirety of their supply chains because cooperation across sectors through water stewardship can create sufficient impact to be ecologically relevant.

A combination of grey and green infrastructure investment can support local development and help prevent migration within and between states. Green infrastructure offers co-benefits such as carbon sequestration, improved air quality, and erosion prevention.

Innovations in grey infrastructure, such as the use of smart sensors in water delivery and sanitation systems and conservation programmes, bring down costs and improve the reliability of water systems. While grey infrastructure uses traditional and well-established funding, green infrastructure potentially brings money from compensation funds.

To address causes of forced migration, institutions and decision-makers need to cooperate to create a framework that is transparent about funding and data use. It is crucial that information is easily accessible and understandable to all levels of society to prevent misuse and disinformation.

## ● **ENVIRONMENT: ECOSYSTEMS ARE NOT PASSIVE – WE ARE A PART OF THEM**

Throughout the Week, discussions focused on promising human interventions that maintain healthy ecosystems. These included Earth observation technologies to monitor anthropo-

genic impacts; biotechnological solutions for wastewater; and nature-based solutions such as wetland restoration to combat flooding. In many cases, young innovators are leading developments in these areas.

High-level, complex solutions may not always provide the most accurate, accessible, or contextually effective responses to climate change or water issues. Local solutions and decentralized decision-making were emphasized throughout the Week as increasingly important in efforts to “leave no one behind”. Though many solutions act on small and medium scales, evidence suggests that progress is being made towards the whole-ecosystems approach that 2019 Stockholm Water Prize winner, Dr Jackie King, spoke about during the Opening Plenary.

“Proactive capacity building is essential for sustainable development.”

As the effects of climate change intensify, water insecurity and environmental disasters look set to hit poorer socio-economic groups the hardest. In many cases, this may result in displacement and migration. Directing global and regional cooperation away from reactive interventions towards continuous, proactive capacity building is essential for sustainable development.

In terms of ecosystem preservation and limiting forced migration, it is crucial that work is conducted across borders, sectors, skillsets and generations to mitigate environmental degradation and to strive towards a prevention-based agenda.

**QUESTION 3** *continued*

**SOCIAL: THE ECOSYSTEM-WATER-MIGRATION NEXUS**

A growing number of areas around the world are classified as suffering from acute water insecurity. Many argue that this causes people to migrate from such areas to places where water is more available. Natural disasters and extreme events related to water, such as drought and flooding, further intensify these flows of people. A responsive policy framework that acknowledges the ecosystem-water-migration nexus is therefore crucial.

Water security must be incorporated into water resource planning and multi-stakeholder engagement must be at the core of all efforts. Laws relating to water currently lack sufficient recognition of local communities' freshwater rights. This is particularly the case for water rights in indigenous areas.

Dr Jackie King spoke about the “silent voices of river systems” and the need for such voices to be acknowledged. Recognition of local and indigenous communities' contribution to sustainable watershed management is crucial, and their participation needs to be central in water resource management to prevent forced migration.

Ultimately, the goal must be to build climate resilience locally: through socio-ecological systems that absorb climate change pressures. Grey-to-green infrastructure transitions as a mitigation strategy is central, and cyclical wastewater treatment systems play a key role.

To successfully implement this approach, institutionalized, multi-level and continuous transboundary cooperation is needed, supported by active water diplomacy. New data-driven monitoring systems for managing water scarcity can help fill the data gaps in IWRM and mitigate the impacts of climate change on vulnerable communities and regions.



# In a public-private-civil partnership, what role does the private sector hold in enabling an economic development that fosters innovations for inclusive water security?

## ECONOMIC: STEWARDSHIP, FINANCE, INNOVATION

### Water stewardship

- Companies move from water management at site level to water stewardship at catchment level. They use tools such as the water risk filter to understand the risks they are exposed to. They apply multi-stakeholder platforms such as the AWS to leverage collective action by incentivizing stewardship across entire verticals.
- This is not something new, but efforts have become more tangible and encouraging large companies to transparently report on first experiences allows them to serve as models for others, accelerating the rate of private sector stewardship adoption.
- Water stewardship increasingly stresses corporate engagement on WASH beyond respecting the human right to water.

### Finance and innovation

- More creative financing mechanisms are needed. The Week featured entrepreneurs and

small and medium enterprises embraced by donors who recognized the need for “impact over ROI” investment, i.e. striking a balance between short- and long-termism. In the short term, there may exist a conflict between investing to address impacts and investing for profits. However, ideally, in the long term, societal impact and long-term profit converge.

- Using a circular economy approach, the private sector can help to identify new markets, especially in waste stream resource recovery (recycled water, phosphorus, potassium, nitrogen etc.).
- Innovation and technologies are tackling water problems. It includes water loss by using acoustic technology (Microsoft), improving irrigation from space (DHI), and improving service efficiency for water utilities through mobile technology (GSMA).

## ENVIRONMENT: POOLING GOVERNANCE

At times, the role of the private sector in addressing water and development issues can be overlooked. World Water Week participants were

reminded of the vital role that the private sector plays in mobilizing funding, helping to fill funding gaps, and thereby potentially advancing progress towards improved inclusivity and more equitable water provision.

The private sector tends to be more flexible and adaptable than the public sector, making it a suitable space for the development of new technologies. The sector provides a platform to give a value to water, such as the economic opportunities of recycling wastewater and its by-products to reduce pollution. Technological innovation should take place across the value chain, from production to finished products.

Industries must be vigilant stewards, managing water sustainably and adhering to regulations. In addition to regulatory compliance, private companies have incentives to hold one another accountable for ensuring compliance and maintaining transparency. Water is a collective and shared resource, and should be collaboratively managed by the government, the private sector and communities, as well as across the supply chain.

Beyond mobilizing funding, the private sector must challenge public perceptions by marketing much-needed behavioural changes to tackle climate change, such as drinking recycled water or not buying fast fashion. Collaboration ultimately results in a shift in mindset and action.

## SOCIAL: CREATING A BUSINESS CASE FOR WATER STEWARDSHIP

Private sector involvement in water and sanitation service delivery can contribute to more affordable and sustainable service provision. Services should be inclusive and have robust regulatory regimes to ensure tariff setting (cross-subsidies) that protect lower income groups and the prioritization of vulnerable groups in general.

This may happen through large-scale PPP agreements in capital-intensive piped networks, and through more innovative approaches involving social entrepreneurship, blended finance



and microfinance initiatives aimed at expanding network connectivity.

Data obtained from networks can be used for open-access platforms to provide transparent, real-time information to populations. This gives all stakeholders a clear view of progress being made. Rural areas should be made a priority, and there is also a need to develop databases as useful tools for regulators or service providers to improve on-site provision. Political economy is key in order to upscale socially oriented business models using IT platforms for monitoring and evaluation.

Private sector actors should work to create a business case for water stewardship. Furthermore, the private sector has the power to direct financial flows to investment in water security and to engage in capacity building to promote best practice to reduce water input for production and encourage relevant innovation and behavioural change. The sector is also able to collaborate with others to provide low income loan products for WASH and WASH loan training.



PHOTO: JONAS BORG



PHOTO: RAVI GAJJAR

# Stockholm Water Prize

**Dr Jackie King** received the 2019 Stockholm Water Prize Laureate for her game-changing contributions to global river management. The prize was presented to her by H.M. King Carl XVI Gustaf of Sweden who is patron of the prize.

Dr King and her colleagues have created ecosystem models to demonstrate the ecological and social implications of damming and de-watering rivers. This has enabled objective assessment of the costs of water-resource developments that could emerge linked to benefits such as hydro-power and irrigated crops.

In its citation, the Stockholm Water Prize Nominating Committee notes that “Dr Jacqueline King has, through scientific rigour, selfless

dedication and effective advocacy, transformed the way we think, talk and work with water as a flow of and for life.”

Stockholm Water Prize honours women, men and organizations whose work contributes to the conservation and protection of water resources, and to the well-being of the planet and its inhabitants. All who have made extraordinary water-related achievements are eligible.

**FOUNDERS OF THE STOCKHOLM WATER PRIZE 2019** | Bacardi, Poul Due Jensen Foundation, Ragn-Sells, Water Environment Federation, Xylem Inc.

## Dr Jackie King

**LIVES IN:** Cape Town, South Africa

**CAREER:** Dr King was co-founder of, and principle researcher at, the Freshwater Research Unit at the University of Cape Town. As an aquatic ecologist she became influential in the recently established field of Environmental Flows. Her early research focused on South African rivers but since the 1990s she works as an advisor in Africa and Asia on river basin planning and management.

PHOTO: RAVI GAJJAR

# Stockholm Junior Water Prize

**Macinley Butson** received the 2019 Stockholm Junior Water Prize for her innovation of a novel ultraviolet radiation sticker that has been developed to accurately measure large UV exposures for solar disinfection of water. The so-called SODiS Sticker is a combination of two innovative products: a high-accuracy and transparent UV sensitive film and a partial UV blocking filter. The result is an innovation that is highly effective but also inexpensive.

“The idea came to me during a geography class when I heard about the enormous problems with contaminated water around the world,” Macinley Butson said to WaterFront Daily.

In their citation, the Jury noted that: “This year’s winning project addresses public health through renewable energy and water. The project embodies simplicity and affordability leaving no one behind. Water for society: including all! This invention is practical, ready and globally deployable. The project demonstrates experience and expertise by a dedicated and creative young scientist.”

Stockholm Junior Water Prize goes to the winner(s) of an international competition with more than 10,000 entries from all over the world. The competition is open to people between the ages of 15 and 20 who have conducted water-related projects of proven environmental, scientific, social or technological significance. The projects range from local or regional to national or global topics.

**FOUNDERS OF THE STOCKHOLM JUNIOR WATER PRIZE 2019** | Xylem, Raincoat Foundation, Stockholm Vatten & Avfall.



PHOTO: THOMAS HENRIKSON

## Macinley Butson

**LIVES IN:** Wollongong, NSW, Australia

**CAREER:** Student at Illawarra Grammar School. Scientist and inventor who won Australia’s national Stockholm Junior Water Prize competition also in 2017. Has previously been involved in other research areas and invented a copper shield that can protect against excess radiation during breast cancer treatment. In future, she would like to do more work related to water.



PHOTO: JONAS BORG

The national winners of Stockholm Junior Water Prize issued a joint statement to express their concern over the water-related climate effects they see in their respective countries. The statement was first presented at World Water Week during the Malin Falkenmark Young Scientist Symposium on Climate Change 29 August 2019 and later sent to the United Nations General Assembly. It will also be shared at the Santiago Climate Change Conference (COP 25). The young scientists call for action and a more solutions-oriented approach to the current crisis.

## Statement from the Stockholm Junior Water Prize winners 2019 to World Water Week in Stockholm



PHOTO: JONAS BORG

First presented at the “*Malin Falkenmark – Young Scientist Symposium on Climate Change*”, 29 August, 2019

As the voice of young water scientists, we will take to the stage in front of the water experts gathered in Stockholm for the World Water Week, to share our observations, our concerns and solutions to water related climate effects that we see as being the realities in our countries. Water affects our health, educational system, livelihoods, vulnerable populations, peace and also our future. Access is privilege.

When we pool our observations and reflections on the most pressing climate issues in our 35 respective countries, we find they range from desertification and water scarcity in Israel, to air and water pollution in Bangladesh and Mexico and repeated flooding in cities across Latvia, for example.

Many of us can attest to hotter weather (during our lifetime), crop failures and melting ice caps. Each one of us has raised issues which can be summarized as “Too much, too little, too dirty water”. Given the range of issues we all experience, you might ask what is our biggest concern?

What concerns us most is not only the inability of our individual countries to act, but how

we will manage to summon global awareness, global engagement and global action. We believe there is little that can be done if all of us fail to come together to engage around the issues of water and the climate crisis, and that the burden is shared by both low- and high-income countries and by low- and high-income groups.

We believe that the time for 'raising awareness' is over. Inspirational speeches, teenage climate strikes and even events like World Water Week are ineffective in their own right. We fear that without the combined actions of individuals, corporations, and governments the climate crisis will overthrow humanity and our surrounding environment.

We want to see theory being put into practice. We want to see ourselves realizing our projects which have brought us to World Water Week and the Stockholm Junior Water Prize International Final. We want to see science-based targets in public and private policies. We want interdisciplinary curriculums in schools to increase educational efforts on climate-change related knowledge to the general public and instill this knowledge bringing it to the core of the young generation.

Investments in education and research are paramount to bringing the necessary innovations to reality in order to overcome today's and tomorrow's challenges. We must focus on sustainability and encourage climate sciences to break into the classical subjects of mathematics, chemistry, physics and social science, that are taught in schools, but are often taught separately and isolated without including or considering the impacts of climate change. So, whether we become entrepreneurs, politicians, scientists, shopkeepers or farmers, we all know we have a responsibility, we all know we have a role to play.

Climate change is a people problem. Governments, decision-makers and institutions influence our behavior and, together or alone,

institutions and individuals must be held accountable and responsible for a sustainable planet. If we don't change nothing will.

We must cast away short-term perspectives and instead focus and act on long-term strategies. Politics cannot be governed by the election cycle and businesses cannot focus on quarterly profits if we are to realize a process of climate mitigation and adaptation. In the long term, we will all lose.

We desperately need true public-minded leaders, both political and influencers, to embrace scientific thinking, not as an ideology, but as an effective platform to drive constructive discourse. We need increased use of data in scientific debates as it is environmental data that informs good decision-making. This can lead to decisive and fruitful government actions to avoid, adapt and succeed in tackling climate change. And our generation is the next generation of leaders.

#### THE NATIONAL WINNERS OF THE STOCKHOLM JUNIOR WATER PRIZE 2019:

ARGENTINA	Valentin Maiolo
ARGENTINA	Ariana Terenzi
AUSTRALIA	Macinley Butson
BANGLADESH	Didarul Islam
BANGLADESH	Md. Shahriar Hasan
BELARUS	Aleksandra Khankevich
BELARUS	Egor Sokol
BRAZIL	Livia Pinaso
BRAZIL	Victor Marotta
CANADA	Emily Mah
CANADA	Jazlyn McGuinty
CHILE	Antonia Gallardo Escandón
CHILE	Diego Oyarzún Muñoz
CHINA	Pan Bole
CYPRUS	Anna Koumi
CYPRUS	Eirini Iskandar
DENMARK	Sebastian Lykke Dalsgaard

DENMARK	Kristian Katholm Nielsen
ECUADOR	Avelina de La Torre
FRANCE	Floriane Caillieret
FRANCE	Nils Donk
GERMANY	Jonas Grajetzki
GERMANY	Theo Sonnenberg
HUNGARY	Eszter Kún
ISRAEL	Marva Pistinner
ITALY	Mariam Mahmoud
ITALY	Fabio Luca Guzzi
JAPAN	Hisato Kizu
JAPAN	Hayato Matsumoto
LATVIA	Ineta Gritane
MALAYSIA	Nur Uyuni Shammimie Mohd Fisol
MALAYSIA	Balqis Binti Mustapha Kamil
MEXICO	Andrés Orozco Grajales
MEXICO	Mario Rodríguez Esposito
NETHERLANDS	Thomas Velders
NETHERLANDS	Lucas Timmerman
NIGERIA	Naheem Opeyemi Hassan
NIGERIA	Amir Sanusi
NORWAY	Ann Rebekka Undheim
NORWAY	Andreas Aukland
REPUBLIC OF KOREA	Jaihyun Kim
REPUBLIC OF KOREA	Minseok (Joseph) Kim
RUSSIA FEDERATION	Eleonora Taranina
SINGAPORE	Haiyi Wang
SOUTH AFRICA	Calden Gounden
SOUTH AFRICA	Kiaran Kumarasan Chetty
SPAIN	Ariadna González Navarro
SWEDEN	Jonatan Persson
SWITZERLAND	Zamir Borojevic
THAILAND	Palida Yongpisanpop
THAILAND	Suphaphich Ongphan
TURKEY	Birsen Beril Bildirici
TURKEY	Elifnaz Saatci
UKRAINE	Vitalii Mykhailichenko
UNITED KINGDOM	Diana Virgovicova
USA	Sonja Michaluk

#WWWeek became a popular hashtag which was used over 80,000 times.

## Outreach

**MEDIA COVERAGE** | World Water Week 2019 attracted journalists from all over the world. The result was more than 3,200 articles, blog posts, TV and radio features, produced by journalists covering the Week on site in Stockholm or online.

**DIGITAL OUTREACH** | This year World Water Week partnered with Facebook for the first time for livestreaming and high-quality social media workshops run by Facebook. Our Facebook videos had over 20,000 views.

**WATERFRONT DAILY** | is published daily during World Water Week to let participants and everyone interested learn more about the many activities and debates that are part of the Week. All issues can be found [here](#).

**THE SOFA** | is a mix of a speaker's corner and a studio interview format. Here journalists conduct interviews and facilitate discussions on a wide range of exciting water issues. All Sofas can be found on [Vimeo](#).



PHOTO: THOMAS HENRIKSON

## World Water Week Journalist Grant

Learn more about the WWW Journalist Grant on [siwi.org/press](http://siwi.org/press).

JOIN US IN 2020!

Societies' ability to tackle water challenges will determine their futures. This requires informed decision-making and an open debate where a free press has an important role to play. Since 2014, SIWI offers grants to journalists from low- or low-middle countries enabling them to attend World Water Week and report about water issues of concern to their societies.

In 2019, four highly qualified journalists were selected and travelled to Stockholm. Read more about and by them on [the SIWI website](#).

**ALBERT FUTUKPOR, GHANA**  
Reporter at the Ghana News Agency in the country's northern region.

**DAGIM TEREFE GESESE, ETHIOPIA**  
Environmental journalist working for both specialized print media and mainstream TV.

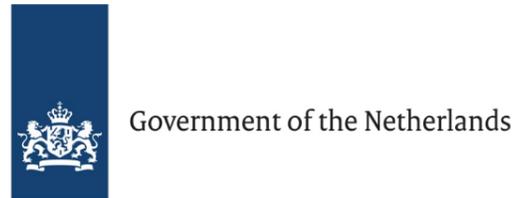
**SHAKOOR AHMAD RATHER, INDIA**  
Editor and correspondent at the Press Trust of India.

**VICKY WANDAWA, UGANDA**  
Investigative reporter from Uganda's leading daily, The New Vision.



PHOTO: THOMAS HENRIKSON

# World Water Week Partners



## Media Partners



## Community Partners



## Key Collaborating Partners

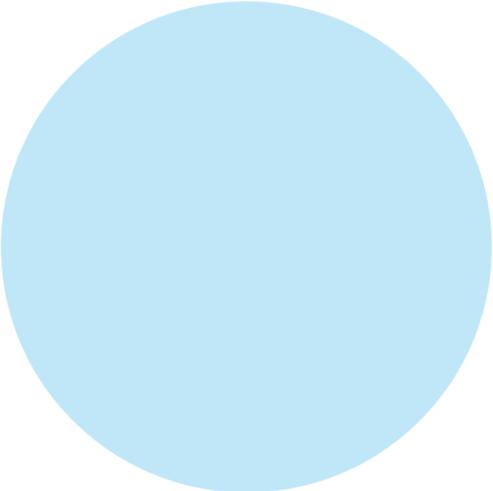


## Technology Partners



## Supported By

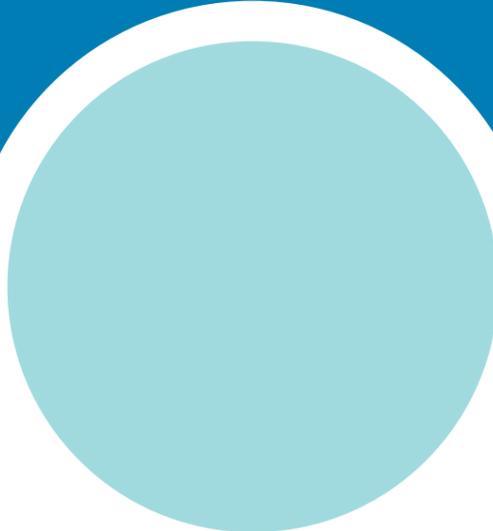




**Stockholm**  
23–28 August  
**2020**



*Water and  
climate change:  
Accelerating action*



worldwaterweek.org

