



Practical solutions to countries' water, environment and health issues

United Nations University Institute for Water, Environment and Health (UNU-INWEH) addresses water-related development challenges of global significance. Water is the entry point to all UNU-INWEH's research and capacity development activities, including those in environment and health areas .

The Institute works to bridge the gap between the wealth of evidence and research that exists on water resources, and the practical needs that

political leaders and decision makers, particularly in low- and middle-income countries, have.

UNU-INWEH maintains an extensive global network of partners including national governments, private sector, academic institutes and universities and UN agencies. UNU-INWEH represents United Nations University in UN-Water - the network of over 70 UN agencies and international partners that work on global water issues.

UNU-INWEH focuses on four key interconnected thematic areas:

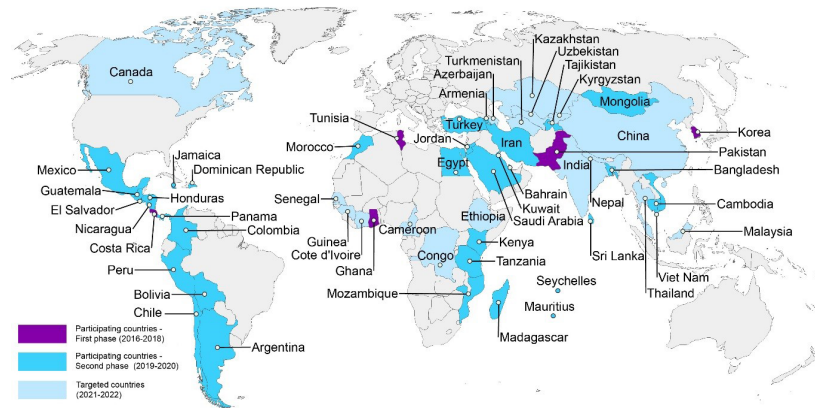
- Accelerating the implementation of water-related Sustainable Development Goals
- Activating a technology revolution for water security in the Global South
- Advancing gender equality for effective water management
- Managing water- and climate-related risks for improved water security

ACCELERATING THE IMPLEMENTATION OF WATER-RELATED SUSTAINABLE DEVELOPMENT GOALS



Example Solution: SDG 6 Policy Support System

Many countries face difficulties in planning for and measuring progress toward achieving their water-related SDGs. UNU-INWEH and its partners responded to this need with the SDG 6 Policy Support System (SDG-PSS). This 6-step tool helps countries improve the performance of their national processes needed to achieve clean water and sanitation for all. It is freely available online in 3 languages with supporting tutorials. The platform has been validated and accepted in 5 pilot countries and is now being rolled-out to 50 more.



Countries where UNU-INWEH's SDG-PSS tool has been, is being or will be rolled out

SDG-PSS produces summaries and pinpoints gaps and strengths in a country's water policy and action planning, related to 6 components of successful SDG implementation:

- Capacity to achieve development objectives.
- Institutions' ability to make evidence-based decisions and enforce policies.
- Financial governance on costs and benefits of achieving SDG 6 targets.
- Policies that empower women to participate in decision-making.
- Robust disaster risk reduction processes to protect communities and infrastructure.
- Transparency across water institutions, and greater accountability in decision-making.

Expertise and Services:

- Expert input into further development of SDG 6 indicator methodologies
- Critical analyses of gaps and water-related interlinkages in the SDG domain
- Syntheses of water development issues in major river basins of the world
- Convening national and regional dialogs on how to accelerate progress towards SDG 6
- Leadership of the UN-Water Task Force on implementation of Water Action Decade (2018-2028)

ACTIVATING A TECHNOLOGY REVOLUTION FOR WATER SECURITY IN THE GLOBAL SOUTH



Example Solution: Alliance for Unconventional Water Resources

Over 60% of the world's population is projected to face water scarcity by 2030. Conventional water resources, on which populations currently rely – rain and river runoff – may not be enough to meet growing water demands. Unconventional water sources, which include fog harvesting, wastewater and grey water, desalination of sea water, water shipping, groundwater management, and other solutions, have real potential to provide countries with the additional water they need. But this potential is yet to be fully understood and accurately quantified. UNU-INWEH runs the unique partnership initiative that synthesises and promotes the globally available knowledge and experiences in this area and helps water-stressed countries integrate unconventional water technologies into their national resource management strategies.

UNU-INWEH's groundbreaking global assessment of desalination, picked up by over 1000 media outlets in 20 languages in 82 countries, estimated annual water production at 35 billion m³, and the associated brine at almost 52 billion m³, 50% greater than previously thought. UNU-INWEH is now working with partners to bring the technology to low-income countries and ensure that desalination sources are protected. Another recent global wastewater assessment by UNU-INWEH and partners indicates that vast amounts of valuable energy, agricultural nutrients, and water could potentially be recovered from the world's fast-rising volume of municipal wastewater that are already approximately equal to the annual flow of Ganges river and are projected to rise by over 50% by 2050.

Expertise and Services:

- Assessments of unconventional water resources' potential: globally and in countries
- Assistance with the development of national water quality standards
- Development of innovative practices to enhance productivity of marginal water and land
- Foresights on the use of disruptive digital technologies in the context of water SDGs
- Development of new water-focused applications of disruptive technologies

ADVANCING GENDER EQUALITY FOR EFFECTIVE WATER MANAGEMENT



Example Solution: Unpacking Water–Migration–Gender Nexus

Over 60% of total forced displacements at present are already due to climate and water-related factors, and by 2050 there will be up to 200 million people so displaced. This calls for an investment in options to address the direct and indirect impacts of water-related stressors on human migration. UNU-INWEH collaborates with UNESCO, the International Organization on Migration (IOM), FAO, and the UN High Commissioner for Refugees (UNHCR) to help better understand the complex causes and consequences of water-related displacement specifically on women and girls, and distill lessons from key water-related migration processes and crises internationally.

UNU-INWEH's recent global analysis of countries' response plans to humanitarian crises pointed to the lack of universal policy around the provision of menstrual hygiene management and to significant temporal and spatial variation between countries' ability to address women's unique needs in a humanitarian context, further aggravated by involuntary migration.

UNU-INWEH, in partnership with University of Kinshasa, also studying large-scale migration of communities in the Congo Basin in the past two decades, focusing on women and girls, to identify gender-specific climate adaptation and conflict resolution options.

Expertise and Services:

- Examining ways to activate the role of women in water-related policies and risk management
- Developing guidance for policy makers and practitioners on how to track indicators on the role of women when delivering water, sanitation and hygiene (WASH) services
- Assessing women's representation across the various dimensions of the water sector, to identify opportunities for greater inclusion, knowledge generation and training at global and country levels

MANAGING WATER- AND CLIMATE-RELATED RISKS FOR IMPROVED WATER SECURITY



Example Solution: Resolving Chronic and Convoluted Water Risks

Climate and health-related water risks are well-known, but many of them remain and even increase with time, while new ones are emerging. Water resources variability alone – through floods and droughts - impact the lives of some 140 million people on the planet each year, resulting in an estimated 10,000 deaths. Another 140 million people globally are, for the last 40 years, affected by arsenic-contaminated groundwater. The UNU-INWEH synthesizes information and suggests ways to address such chronic and complex

water-related risks and hazards, and aims to find new solutions, by challenging the status quo and business as usual. The Institute recently analysed the efficiency of existing flood early warning systems, indicating the need to rank them globally to streamline further investments. UNU-INWEH also synthesized the existing knowledge on arsenic-removal techniques and suggested a 4-step plan for complete eradication of arsenic from drinking water by 2030 in affected countries.

Expertise and Services:

- Developing universal standards for early warning systems for water-related disasters
- Provisioning of tools contributing to eliminating microbial and chemical hazards in drinking water, eradicating neglected tropical diseases, and improving the resilience of health systems
- Unpacking and optimizing the potential of Nature Based Solutions and existing surface and subsurface water storage infrastructure to alleviate negative impacts of water variability
- Assessing vulnerability of urban centres to water-related risks and threats, such as flooding, sea level rise, water terrorism and ageing water storage infrastructure
- Quantifying “water security” concepts and putting them into action in real-world situations faced by communities and policy makers in low-income countries and regions

CAPACITY DEVELOPMENT INITIATIVES



UNU-INWEH work equips policy makers and the next generation of researchers with important skills to address water issues across geopolitical and disciplinary boundaries. This service is delivered through a range of capacity development programs including:

- In-house and remote internships
- International and local embedded learning programmes
- Graduate program “Water Without Borders”, in collaboration with McMaster University
- Post-Doctoral fellowships
- On-line education and webinars
- In-country training sessions

Each year UNU-INWEH hosts up to 30 in-house trainees from Canada and developing countries.

It also delivers courses on an on-line Water Learning Centre through regional training hubs in Southeast Asia, Latin America and the Caribbean, the Middle East, and Sub-Saharan Africa.

UNU-INWEH’s capacity development activities are always solution driven, include case-based learning, and are designed to help participants understand water challenges in the context of interlocking environmental, social, and political threats. The goal is to provide participants with the knowledge and tools that enable them to achieve progress on water-related SDGs, deploy the most relevant technologies to deal with water challenges specific to their countries, advance gender equality within the water sector, and effectively manage water- and climate-related risks.

UNU-INWEH is an integral part of the United Nations University (UNU) – an academic arm of the UN, which includes 13 institutes and programmes located in 12 countries around the world, and dealing with various issues of development. UNU-INWEH was established, as a public service agency and a subsidiary body of the UNU, in 1996. Its operations are secured through long-term host-country and core-funding agreements with the Government of Canada. The Institute is located in Hamilton, Canada, and its facilities are supported by McMaster University.

For all inquiries, contact UNU-INWEH at contact.inweh@unu.edu



Global Affairs Canada
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UNU-INWEH is supported by the Government of Canada through Global Affairs Canada.

