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UNU-INWEH

Institute for Water,
Environment and Health

UNITED NATIONS UNIVERSITY INSTITUTE FOR WATER, ENVIRONMENT AND HEALTH (UNU-INWEH)

Strategic Plan 2020-2024





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Environment and Health

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“Water is health. Water is dignity. Water is a human right. There is nothing more fundamental to our very existence”.

Antonio Guterres, Secretary-General of the United Nations





Foreword

In response to an emerging concern about the growing global water crisis, and its harmful impact on human and environmental health and sustainable development, the United Nations University (UNU) created the UNU International Network on Water, Environment and Health (UNU-INWEH) in 1996, with core funding from the Government of Canada.

Since then, UNU-INWEH has established a reputation for timely, clear, and rigorous research that is directly relevant to major regional and global water policy debates. With challenges to water security rapidly growing and further exacerbated by shifts in global water distribution patterns due to climate change, the work of UNU-INWEH has become even more relevant and vital.

UNU has a particular mandate to address the concerns and needs of developing countries, and to support the growth of academic and scientific communities worldwide. This is where our dual identity, as a think tank within the UN system and as an institution of higher education, makes us particularly useful. We are well placed to serve as a translator of evidence-based research for UN and international policy makers, and as a bridge between the UN and the global academic world.

UNU-INWEH plays these roles on behalf of UNU within the water domain. The Institute has made major contributions to advancing global policy-relevant water research and contributed to several major UN events and reports, including the 2018 High-Level Political Forum on Sustainable Development and the SDG 6 Synthesis Report. UNU-INWEH also represents the UNU at UN-Water — an inter-agency coordination mechanism for freshwater and sanitation related issues, comprising more than 30 UN agencies and 40 non-UN partners. UNU-INWEH also leads UN-Water efforts to support the UN-wide International Decade for Action on “Water for Sustainable Development” (2018–2028).

Also notable are UNU-INWEH’s recent efforts to help advance the profile of its host country, Canada, on the international water stage by examining Canadian water education and research, as well as its investments and experiences in water technology and governance.

UNU-INWEH’s strategy for 2020–2024 describes the Institute’s thinking on how it will contribute to advancing the change that is urgently required if we are to achieve water-related Sustainable Development Goals, accelerate a technological revolution in water management in the global South, and alleviate regional water-related risks. There is also a strong focus in this strategy on improving gender equality, and mainstreaming water security and climate change adaptation.

It is my expectation that UNU-INWEH will continue to serve as a hub for water policy innovation, working in coalition with diverse partners throughout the world and as a valued member of the UNU family. In 2021, UNU-INWEH will mark its 25th anniversary. I am convinced that the Institute will continue to thrive and look forward to its future activities and successes.

Dr David M. Malone
Under-Secretary General
Rector of the United Nations University

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Our new strategy at a glance

The United Nations University Institute for Water, Environment and Health (UNU-INWEH) strives to achieve a water secure world for everyone. UNU-INWEH has built a reputation for providing policy makers with reliable analysis and practical solutions to some of the world's most pressing global water challenges. Our experts have been at the forefront of action at the United Nations on accelerating efforts to provide clean water and sanitation to all (Sustainable Development Goal (SDG) 6). We have developed and tested tools that help countries set national targets on access to safe water and sanitation, potentially benefiting hundreds of millions of poor women and men in the Global South. The concept of "water security", which we helped define¹, is gaining momentum globally, and our assessments of alternative water sources are identifying viable options to alleviate water scarcity. Our research is contributing to eradicating arsenic contamination in drinking water by 2030², and our targeted training and educational programs are equipping the next generation of global water experts with holistic approaches to address water challenges across thematic and institutional boundaries.

Our new strategy builds on past success and outlines how we will harness the power of knowledge on global water issues to stimulate policy innovation and impact. We will do that by increasing our focus on climate change, gender equality and health, and delivering policy relevant research and training to achieve lasting outcomes in four focus areas:

- Accelerating the implementation of water-related SDGs³;
- Activating a technology revolution for water security in the Global South;
- Advancing gender equality for effective water management; and
- Managing water and climate-related risks⁴.

Over the next five years, we will redouble our efforts to become the think tank of reference on global water issues. We will expand our reach and impact with a persistent commitment to:

- Producing policy relevant research that has impact;
- Developing practical tools that can scale;
- Communicating with a purpose;
- Equipping the next generation of water experts with essential skills; and
- Working in coalition with governments and global networks to spread success.

UNU-INWEH is uniquely positioned to achieve impact globally and nationally on issues that affect billions of people. Our link to the United Nations and explicit mandate to inform policy gives us privileged access to influence global policy debates on water. Our role as a hub for world class expertise on water enables us to tap into networks that span academia, industry and government worldwide to develop practical solutions to water-related challenges. Furthermore, our location in Canada provides us with a platform to join forces with leading Canadian research institutions to showcase Canada's contribution to this field and advance a shared vision for a water secure world.

Our view of the world

The challenges we face

The world faces an unprecedented global water crisis. Close to 4 billion people worldwide are now experiencing varying degrees of water scarcity and the ability of ecosystems to provide fresh water supplies is increasingly compromised.⁵ Water-related risks linked to natural disasters, biodiversity loss and ecosystem collapse, extreme weather events, and climate change are considered to be among the top 10 global risks in terms of impact and probability.⁶ The scale of the challenge is immense and the urgency to act is immediate.

A growing lack of adequate water supplies combined with poor water management threaten the health and very existence of humanity and nature. Today, some 2 billion people live in countries experiencing high water stress.⁷ While global water demand is expected to increase by almost 50% by 2030, there has been a 55% drop in globally available fresh water per capita since 1960.⁸ Protracted challenges to water quality and availability that date back 50 years, are now compounded by new emerging pressures. Prime among these stressors are population growth, agricultural intensification, rapid urbanisation, and climate change.⁹ The strong cumulative impact of multiple stressors on our water sources is intensifying the mismatch between water demand and supply. These factors are beginning to overwhelm nature's ability to provide fresh water in sufficient quantity and quality.

Some 35% of the global population (2.5 billion people) lack access to safe drinking water and adequate sanitation facilities.¹⁰ Of these, some 1.8 billion use water contaminated by faeces, and 150 million continue to drink naturally contaminated water.¹¹ The consequences are dire. Each year, there are 3 billion cases of illness and some 3 million deaths due to the lack of access to safe drinking water, proper hygiene, and adequate sanitation.¹² The majority of populations living in lower income and conflict affected countries continue to lack safe drinking water and basic sanitation services and facilities.¹³

Women often face the greatest barriers to access clean water and sanitation and bear the heaviest burden of water-borne diseases.¹⁴ According to the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO), women and girls are responsible for water collection in 8 out of 10 households with no running water. They are also at elevated risk of harassment and assault when gathering water or using public or communal latrines. The lack of safe and separate sanitation and washing facilities in schools has also been recognized as a major factor preventing girls from attending school, particularly when menstruating.¹⁵ When it comes to water-borne diseases, there are more than 1 million deaths each year associated with unclean births,¹⁶ and women are the primary caregivers of those fallen sick due to unsafe water and sanitation practices.¹⁷

Climate change will place additional stress on an already over-taxed global water system. Rising air and water temperatures are intensifying droughts and floods and causing declines in water availability and quality.¹⁸ These impacts, in turn, affect the functioning of ecosystems, degrading their capacity to provide food and essential resources, with cascading effects on human

health and welfare. The economic costs of damage created by intense tropical cyclones, wildfires, severe droughts, and seasonal flooding is also growing, amounting to US \$225 billion in 2018.¹⁹ Since the beginning of the 21st century, water-related disasters led to over 325,000 fatalities and economic losses of more than US\$ 1.7 trillion across the globe.²⁰ Without ambitious risk reduction and water adaptation strategies, our planet will continue to experience cascading impacts due to mean sea level rise and extreme events that are projected to significantly increase.²¹

The changes we need

Initiatives are required that bridge scientific and policy communities to offer practical solutions to water-related challenges. Recent research has uncovered breakthroughs that can help deliver a more water secure world.²² Yet, much of what is known by the research community is not known by the policy community.²³ This is because academic research is often out of step with the information that decision makers need. With the importance of water for sustainable development firmly recognized in the 2030 Agenda for Sustainable Development, now is the time to bridge the science-policy divide and capitalize on insight from research to improve access to water, reduce water-borne diseases, and adapt to a more climate resilient global water system.

Helping countries set and implement their national water-related SDG targets and collect relevant data is another urgent priority. At least 60% of countries require practical assistance to contextualise and embed water-related SDG targets into national planning processes, policies and strategies based on their ground realities and priorities. In fact, currently, less than half of UN Member States have comparable data to measure progress against SDG 6 targets. A long-term commitment that addresses this acute lack of capacity to effectively plan and manage water and sanitation services through new technologies, knowledge and capacity development is essential. This includes practical tools that can help governments collect gender disaggregated data and track progress against water-related SDGs.

Continued investment in innovation and technology to address the effects of population growth and climate change on our water ecosystem is essential. Decision-makers must have access to solutions that help them meet present and future water-related demand. This includes taking advantage of innovations that tap into unconventional water resources derived through desalination, wastewater management and reuse, and collect stormwater and drainage water. Understanding how emerging digital technologies including Artificial Intelligence (AI), blockchain technology and the Internet of Things (IoT) can enhance the effectiveness of water management and governance strategies is important. Such technological solutions, however, need to be contemplated through a process that involves all relevant stakeholders to ensure that solutions are adapted to the local context, promote inclusive access, and ensure long-term sustainability.



Our thematic focus

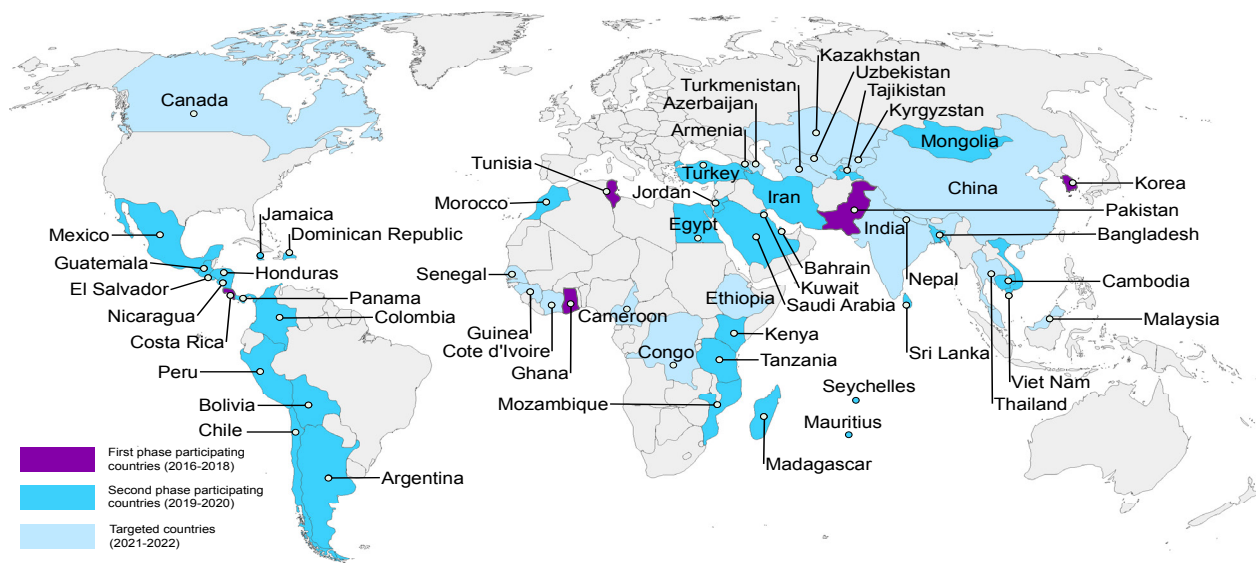
Addressing the global water crisis and associated health, gender and climate-related impacts are at the core of UNU-INWEH’s new five-year strategic plan. We recognize that incremental change is not enough. Required is a transformative approach that accelerates progress to our goal of a water secure world for everyone.

UNU-INWEH’s value proposition is providing actionable policy options that promise measurable progress toward a water secure world. Over the coming five years, we will focus on delivering value in four areas where we have a unique comparative advantage.

Accelerating the implementation of water-related SDGs

Supporting countries produce reliable, timely, consistent and comparable data to measure progress against the SDGs

Over the next five years, UNU-INWEH will accelerate its mission to provide Member States with proven tools to collect data and track progress against water and sanitation related targets with a focus on SDG 3, 6, 11 and 13. UNU-INWEH’s SDG support delivery platform (SDG 6 Policy Support System - SDG-PSS) is unique in that it equips Member States with evidence that is essential to formulating and monitoring their national water targets. The tool has already been tested and adopted in five countries (Costa Rica, Ghana, Pakistan, the Republic of Korea and Tunisia) serving some 280 million people. In the coming five years, SDG-PSS will be rolled out to more than 50 countries and will expand its scope to include water-related targets beyond SDG 6. UNU-INWEH’s efforts will complement UN-Water’s Integrated Monitoring Initiative (IMI) so as to collectively improve data monitoring and reporting on SDG 6 at national levels.



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





The Global Brine Challenge

UNU-INWEH's global assessment of the extent of water desalination uncovered that 50% more brine is being produced than was originally estimated. This revelation highlights a significant environmental challenge for which no large-scale solution exists. The implications could challenge the notion of desalination as a viable alternative to water scarcity. But it can also spur innovations that resolve brine water disposal.

Building the capacity of countries to collect gender-disaggregated data on water

Robust gender disaggregated data are needed if we are serious about managing water resources and improving access to safe water and sanitation for all. Doing so will have a positive cascading impact that recognizes the critical role that women play in water resource management and enhancing women's leadership in the design and implementation of water and sanitation services. Over the next five years, UNU-INWEH will enhance the capacity of national governments to collect gender-disaggregated data on water through focused research and targeted training that helps create baseline gender-related water data to support SDG implementation. This will improve the design and implementation of water management strategies with the potential for changing how the effectiveness and utility of water use and management is evaluated.

Strengthening methodologies for integrated SDG 6 monitoring across institutions, sectors and regions

Under the UN-Water Integrated Monitoring Initiative, UNU-INWEH staff will continue to work closely with other experts at the UN Food and Agriculture Organization (FAO), the UN Environment Programme (UNEP), UNICEF, the WMO, and the WHO to improve country-level capacity to report on progress toward SDG 6. As part of this work, UNU-INWEH will explore the interconnections between water and other SDGs, and highlight the potential for positive knock-on effects through different implementation options. Systems-thinking will be at the core of UNU-INWEH's approach to SDG implementation, an area where there is a great deal of demand from the global policy community. This will be complemented by on-going efforts to make water-related education and training more relevant in the SDG era, and exploring innovative water-related SDG financing options.

Activating a technology revolution for water security in the Global South***Exploring unconventional water resources to meet demand in water-scarce areas***

The limitation of conventional water resources to respond to future needs amid the changing climate, calls for a sharper focus on developing alternative options. UNU-INWEH is the only organization in the world that comprehensively examines the availability of unconventional water resources for meeting the growing thirst for clean water. There exists tremendous promise in generating clean water from desalination, making effective use of off-shore and deep aquifers, harvesting atmospheric moisture through cloud seeding, and treating wastewater, greywater, stormwater and drainage water. Yet, more evidence is required on how to manage the environmental trade-offs that come from the use of unconventional water resources. Research is also needed on financing mechanisms that enable the sustainable use of unconventional water resources, and on the institutional capacity of national and local governments to use unconventional water resources. UNU-INWEH will build on its reputation as a go-to-source for evidence on the global status and geographic distribution of unconventional water resources by filling these knowledge gaps.

Accelerating the adoption of disruptive technologies for water management innovations in the Global South

There has been significant progress in the development and roll-out of digital technologies including Artificial Intelligence (AI), blockchain technology, and the Internet of Things (IoT) to improve water resource management in the Global North. Solutions exist and they have been proven to work, yet many of the benefits do not extend to lower and middle-income countries. The problem boils down to a lack of access to reliable and timely information on what emerging

technologies are most suited to address particular problems in different environments. UNU-INWEH will evaluate the most appropriate technologies for adoption in developing country contexts. Examples of concrete contributions will include evaluating the role of AI technologies for monitoring water quality in refugee camps and for improving basin-wide data acquisition and sharing as advocated for by the High Level Panel on Water.²⁴ We will provide strategic foresight on how disruptive digital technologies can be quickly rolled-out in a cost-effective way for populations in distress and how they can accelerate progress toward the realization of water-related SDGs.

Advancing gender equality for effective water management

Enhancing women's participation in decision-making to address water-related risks

Water and sanitation management in water scarce environments are more effective if women are involved.²⁵ Yet, finding ways to activate the role of women in water-related policies and risk management remains a challenge. In order to achieve more equitable access by men and women to safe water in a context of growing water variability and change, UNU-INWEH will identify gender-responsive initiatives that create the conditions for enhanced participation of women in community-based water conflict resolution strategies. Our work will pay specific attention to minimizing the impacts of water-related disasters on the health of women and girls, in contexts of humanitarian crises to identify options that improve health outcomes. We will develop targeted guidance documents that equip policy makers and practitioners with the capacity to track these indicators when delivering water, sanitation and hygiene (WASH) services.

Documenting the impact and role of women and girls in dealing with water- and climate-induced migration

The UN has estimated that by 2050 there could be up to 200 million people displaced as a result of desertification, sea level rise and increased extreme weather events.²⁶ According to the Global Peace Index 2019, "61.5% of total forced displacements in 2017 were due to climate related disasters."²⁷ The growing prospect of climate change induced displacement in the future calls for an investment in options to address the direct and indirect impacts of water-related stressors on human migration. UNU-INWEH will contribute by examining the role of women and girls in water-induced migration in the Congo Basin where some 195 million people have been displaced. This work will make a tangible impact in the Democratic Republic of Congo, and also showcase options for the wider policy community to learn from. UNU-INWEH will also actively collaborate with UNESCO, the International Organization on Migration (IOM), the FAO, and the UN High Commissioner for Refugees (UNHCR) to help better understand the complex causes and consequences of water-related displacement on women and girls, and distill lessons from key water-related migration processes and crises internationally.

Assessing women's representation across the water sector

Despite the overwhelming burden of water-scarcity and water-borne diseases falling on women and girls, data on the role of women in the water sector globally and nationally are limited. UNU-INWEH will start to develop a series of quantitative data sets that provide insight into the gendered dimensions of water research and education, as well as on the role of women in water-related industries. The objective will be to shed light on the degree to which women are represented across the various dimensions of the water sector, and to use that as a baseline against which to improve. Doing so will help identify opportunities for greater inclusion, representation, knowledge generation and training at global and country levels.



Water-migration-gender nexus in the Congo River Basin

The Congo Basin holds approximately 40% of African water discharge and is critical to continental and local water security. Adverse effects of climate change in the Basin are amplifying vulnerabilities of populations to water-related risks. Over the next 3 years, UNU-INWEH, in collaboration with the University of Kinshasa, will identify gender-specific climate adaptation and conflict resolution strategies to address climate and water-driven challenges such as forced migration and conflict.

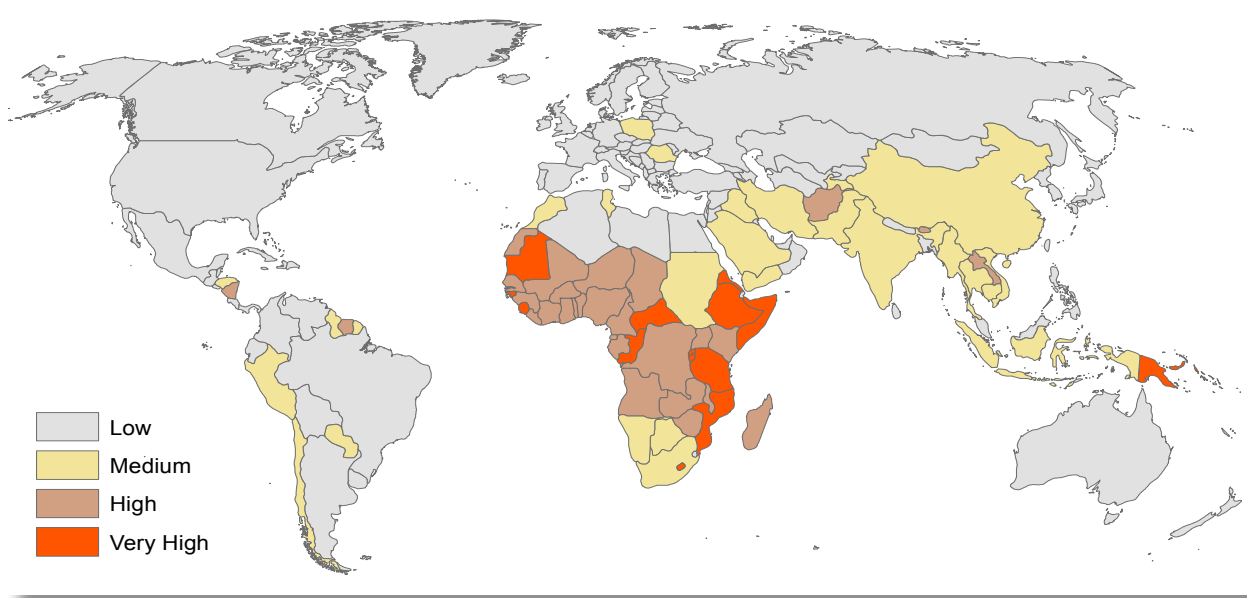
Managing water- and climate-related risks for improved water security

Addressing emerging and chronic health risks of water pollution

Environmentally persistent pharmaceutical pollutants (EPPP) are contaminating drinking water with toxins. Research has demonstrated that anywhere between 30-70% of pharmaceuticals end up in water sources.²⁸ UN Member States are only starting to recognize the adverse effects that this is causing in humans and wildlife. Undertaking research that highlights the impact of such emerging water pollutants on the environment and human health will be a UNU-INWEH priority. In parallel, UNU-INWEH will also continue on its path to help countries eradicate chronic water-related health risk, such as arsenic contamination of groundwater. We will also aim to identify solutions that reduce associated health risks and limit exposure to them based on the identification of proven paths to impact.

Alleviating water-borne diseases²⁹

Health costs associated with water-borne diseases such as malaria, diarrhea, and worm infections are enormous. Polluted drinking water in sub-Saharan-Africa alone causes annual losses - through a decrease of working hours and rising expenditures for health costs – of \$28 billion US. That is more than these countries received in 2003 as development aid and debt cancellations combined.³⁰ UNU-INWEH developed tools such as the Water-Associated Disease Index (WADI),³¹ to help policy makers better anticipate and prevent these diseases. The index measures and visualizes the vulnerability of populations and regions to water-associated diseases (cholera, dengue, and schistosomiasis), and takes into account variables including increasing urbanization, land use intensification, and climate change. The first of its kind, WADI provides a holistic picture of vulnerability to disease by integrating environmental exposure (temperature, precipitation, land cover) and social susceptibility measures (life expectancy, educational attainment, and access to healthcare) into a comprehensive composite index tailored to decision-makers. UNU-INWEH will expand the use of such tools and will also suggest water management interventions that help alleviate and eventually eradicate the incidence of such diseases.



Susceptibility of countries to Dengue using the Water-Associated Disease Index

Addressing the vulnerability and resilience of urban centres to water- and climate-related threats

The sea level continues to rise at an increasing rate. This combined with ocean warming and acidification are projected to exacerbate risks for human communities in low-lying coastal areas³²; this is of particular concern as 90% of all urban centres are coastal.³³ Cities are also running out of drinking water, with Sao Paulo (Brazil), Chennai (India), and Cape Town (South Africa) most recently facing acute water shortages.³⁴ Tackling such challenges requires investment in new knowledge and technical innovations that can help societies leapfrog to more efficient, safe, and resilient water resources and build more water-sensitive cities.³⁵ We recognize that up to 75% of the global population could live in cities by 2050. With an estimated 90% of future population growth taking place in the fast-growing cities of Asia and Africa,³⁶ developing quantitative measures that allow for a granular accounting of the water and climate risks faced by urban centres in Africa and Asia is essential. UNU-INWEH will help cities in Asia and Africa adapt to this new reality by evaluating emerging risks such as aging water infrastructure, exposure to floods and droughts, as well as introducing nature-based solutions appropriate for urban contexts. We will also incorporate this knowledge into capacity building programs so as to equip city authorities and next generation policy makers with the ability to better apprehend emerging water-related urban risk scenarios and inform preventive actions and policies.

Operationalizing water security

UNU-INWEH will evaluate the efficiency and contribution of water-related disaster early warning systems (floods and droughts in particular) towards risk reduction globally, and suggest, to UN member states, options to improve this efficiency. Consideration will also be given to the development of a “water security clock” that show levels of water insecurity in a country at regular time intervals. We will aim to develop ways to assess both long-term (related to overall water availability and access in a country) and short-term water security (determined by water variability) and present these in a way easily understood by local stakeholders and policy makers.



Our unique assets

Part of the UN family

UNU-INWEH is uniquely well positioned to contribute to key water-related policy discussions at the United Nations. Tackling the problem of water insecurity at national to global scales requires a multilateral approach, and the UN is the world's pre-eminent multilateral forum for this. UNU-INWEH, as well as UNU at large, has a unique advantage of being part of the UN system on the one hand, and enjoying academic independence – on the other. With water high on national policy agendas and firmly established in the Global Sustainable Development Goals, the UNU represents an effective mechanism where scientific expertise can be leveraged to strongly and positively influence policy.

UNU-INWEH is the only entirely water focused UNU institute and collaborates actively with a range of UN agencies and departments. The Institute is part of the UN's response to the implementation of the SDGs, the Paris Agreement on Climate Change, and the Sendai Framework for Disaster Risk Reduction. UNU-INWEH leads the UN-Water Task Force on the UN Action Decade "Water for Sustainable Development" (2018-28), and the UN-Water Task Force on Unconventional Water Resources. UNU-INWEH is also a key partner to the UNEP led World Water Quality Alliance, the FAO's Global Initiative on Alleviating Water Scarcity in Agriculture (WASAG), and is a key contributor to UN-Water's annual World Water Development Report. UNU-INWEH also contributed to the SDG 6 Synthesis Report of 2018 and is scheduled to support a similar report for the 2022 High Level Political Forum.

UNU-INWEH has proven successful in leveraging science to inform major policy debates and enhancing cooperation between UN Member States. UNU-INWEH's ability to tap into a vast network of UNU research institutes further amplifies its ability to tackle problems that require a multi-pronged response. There is significant opportunity for UNU-INWEH to work across the UNU network in a way that leverages 'in-house' expertise and promotes a cross-fertilization of research between UNU institutes.³⁷ UNU-INWEH will continue to play an integral role across the UN system to advance science and research on water.

World class expertise

UNU-INWEH is a true hub of world class expertise that brings together researchers, policy makers and industry representatives to advance water-related innovation. UNU-INWEH staff bring broad international experience and possess a wide network with inter-disciplinary reach. This expert network enables UNU-INWEH to navigate the science-policy interface and strategically propose practical solutions and harvest new ideas. Examples include UNU-INWEH's participation in Future Earth's Knowledge-Action Network (KAN) on emerging risks, as well as its direct engagement in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

UNU-INWEH has relationships across the water sector with public and private sector entities. We collaborate closely with water supply companies such as EPCOR in Canada, the Aleff Group in UK, and Suez International. We will continue to build our professional network by exploring options for collaboration with large water and IT industry players as part of our commitment to accelerating the adoption of water technologies in the Global South. We will also work closely with a series of multi-lateral financial institutions including the World Bank, the Asian Development Bank, The African Development Bank, the Green Climate Fund and the Global Environment Facility to ensure that our solutions scale beyond the UN.

A Canadian advantage

With headquarters in Canada, UNU-INWEH is part of a cutting-edge ecosystem of Canadian researchers advancing Canada's role on the global water stage. UNU-INWEH has benefited from a strong partnership with the Government of Canada, which has provided critical support to establish and position UNU-INWEH for global impact. Hosted by McMaster University - one of the world's leading research institutions - UNU-INWEH has developed collaborative partnerships with McMaster faculty. This active partnership includes a jointly delivered graduate degree programme in water, environment and health called Water Without Borders (WWB). UNU-INWEH is also a participant to the Global Water Futures (GWF) research program based out of the University of Saskatchewan, where UNU-INWEH serves as the connector to global UN processes including the Water Action Decade 2018-2028. As part of this initiative, UNU-INWEH recently led a team of 20 Canadian water experts from some 10 organisations to examine opportunities for enhancing Canada's role in global water policy discussions.

UNU-INWEH will continue to build on its Canadian advantage by deepening its relationship with Canadian partners. Together with McMaster University, UNU-INWEH will develop an MA degree program in international water leadership. We will also expand our partnerships with other universities in Canada. Active collaboration has recently been established with the University of Ottawa, the University of Waterloo, the University of New Brunswick, and discussions have been initiated with other universities in Canada. We will also continue to work closely with the Government of Canada to advance Canada's voice on the global water stage to collectively achieve water, gender and climate related goals.



Our commitment to research impact



Producing policy relevant research

To have an impact, UNU-INWEH must serve as focal point for ideas and action.

Research excellence is required for any knowledge-based endeavour. However, when people's lives and the health of the environment are at stake, a commitment to excellence is essential. Over the next five years, UNU-INWEH will continue to promote rigorous research based on the best data to provide insights that inform water-related policies that save lives. We will invest in research that can make a tangible difference by proposing practical solutions to policy makers, industry and communities. UNU-INWEH's guarantee for research excellence begins at the start of every research endeavour with a commitment to thinking deeply about research quality and the involvement of end users, men and women, in the design and implementation of research. Careful consideration is also given to research ethics, the identification of the desired impact of research, and on how to measure that impact.



Developing practical tools

Think tanks exist to influence policy and to push for change by developing practical solutions that can scale. UNU-INWEH will put forward actionable solutions that are

demand driven and timely. We recognize that the policy process is inherently unpredictable. To effectively navigate this unpredictability, we will enhance our ability to gather intelligence on emerging governmental priorities and develop a capacity to provide just-in-time scientific advice and decision-support tools to target policy actors. As part of this strategy, UNU-INWEH will undertake strategic foresight research that maps out future trends and opportunities in the water sector intended for policy audiences. To help extend our credibility and visibility in policy circles, we will also publish a series of white papers on pressing areas of concern, convene policy dialogues that contemplate new ideas to tackle the global water crisis, and develop tools that help policy makers better anticipate and respond to emerging water challenges. Our tools will provide policy makers and practitioners with access to improved water-related SDG tracking data, gender disaggregated water data, and indicators of water risk in water scarce and disaster-prone regions, countries, and cities.



Communicating with a purpose

Communicating clearly is essential for policy uptake. Our efforts at communicating research have been successful. Targeted campaigns to date have had a potential readership of up to 1 billion people. To expand our impact, we will continue to sharpen our communications to target audiences with a purpose. Communication efforts will focus on

highlighting strategic opportunities for policy intervention at local, national, regional, and global levels. We will leverage effective web-based communication tools and focus on the production of digital products in order to reach audiences in a timely and cost-effective manner. We will continue to commit to an international public goods model of 100% open access to everything that we publish. Special efforts will be made to engage a global policy audience in multiple languages. Communicating with a purpose for UNU-INWEH will also mean exploring new, sometimes controversial ideas, with the objective of influencing a forward-looking policy agenda.



Training the next generation of water leaders

Our 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 in-house internships, embedded learning programmes, on-line education platforms, webinars, and in-country 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 four regional training hubs in Southeast Asia, Latin America and the Caribbean, the Middle East, and sub-Saharan Africa. Our 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.



Working in coalition

To achieve global impact and scale ideas, we will continue to build and leverage our global network. Over the next five years, UNU-INWEH will develop stronger partnerships within the UN family, extend our relationship with Canadian and international research institutions, and build new relationships with community and corporate organizations. Particular emphasis will be placed on continuing UNU-INWEH's presence in the UN-Water network of some 60 UN agencies and non-UN international organizations working on water and sanitation issues. UNU-INWEH will also seek to strengthen its important partnership with Global Affairs Canada.

Navigating the difficult funding environment requires developing partnerships that can mobilize financial support from a variety of sources. Over the next five years, UNU-INWEH will pursue large-scale grant opportunities in collaboration with leading research partners. It will also strengthen its approach to joint resource mobilization with sister UNU institutes. UNU-INWEH will also look to engage with the private sector on key projects where scientific and technological discoveries can be used to deliver concrete solutions on the ground. Finally, UNU-INWEH will look to expand its capacity building projects and search for co-funding opportunities with university and research institute-based providers.

Our approach to governance and accountability

Governance

UNU-INWEH is supported in its mission by renowned experts who provide valuable guidance and visibility to our work. UNU is overseen by the UNU Council that serves as the governing board of the UNU. It is composed of 13 members, who serve 6-year terms, 3 ex-officio members and the UNU Rector. The UNU Council sets the principles and policies that govern the UNU's operations and approves the UNU budget and work program. It meets twice a year and reports annually to the UN General Assembly and the UN Economic and Social Council.

The UNU Rector appoints the UNU-INWEH International Advisory Committee (IAC) that provides advice and guidance to the UNU-INWEH Director. The UNU-INWEH Director convenes the IAC meeting once a year but consults IAC members regularly on matters of importance. The principle roles and responsibilities of IAC include:

- Providing advice and guidance to the Director on all aspects of the Institute's academic programme, management and institutional development, including advice on the strategic orientation of the programme, management decisions that impact the effectiveness of the Institute, such as partnerships, staffing, and fundraising, and advise on monitoring and refinement of the performance benchmarks and indicators framework;
- Making recommendations to the UNU Council through the UNU Rector, in order to ensure the effective functioning of the Institute; and
- Serving as spokespersons for the Institute, assisting the Director in reaching new networks in order to better disseminate research results and employment opportunities as well as identify new pathways to third-party funding.

Financial management at UNU-INWEH takes place under strict UN Financial Rules and Regulations. The financial operations and management of UNU-INWEH is regularly audited through the UN Office of Internal Oversight.

Monitoring results

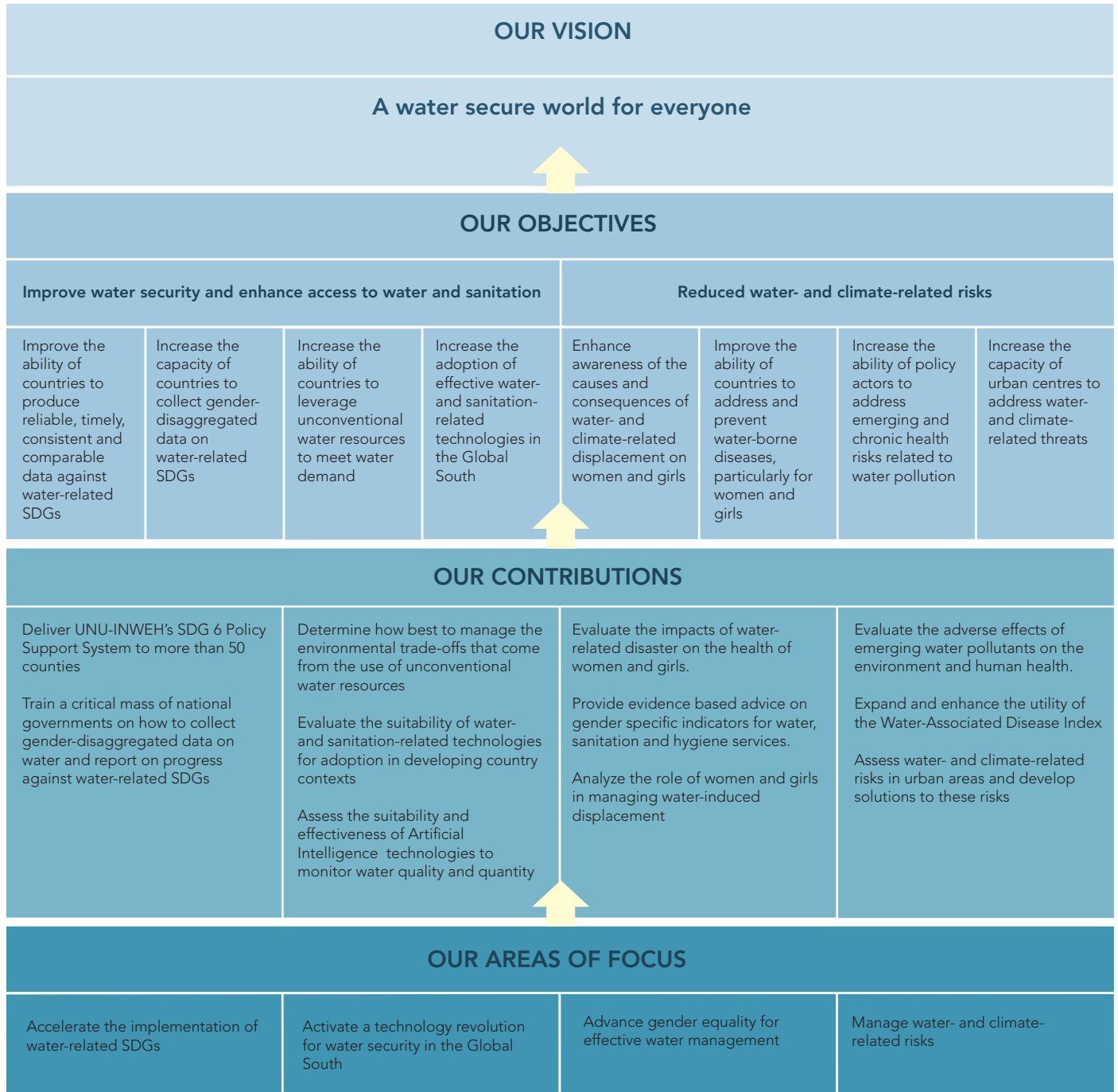
A robust monitoring and evaluation strategy with clear metrics increases the likelihood of achieving results. UNU-INWEH has an institutional results framework that reflects the strategic goals of the organization and links to concrete performance benchmarks that are tracked on an annual basis and endorsed by the Institute's IAC. Measured are both quantitative and qualitative metrics that serve as the best indicators of success. UNU-INWEH takes an integrated approach to enhance monitoring, evaluation and learning across all of its work. Metrics reflect UNU-INWEH's strategic plan and are in line with the mandate of the UNU. Measured are targets that range from research excellence to policy impact and capacity building. Much of this impact is captured and communicated in UNU-INWEH's annual reports available on our website.

Managing risks

Effective risk management is crucial to UNU-INWEH's success. Risk identification and management is anchored in UNU policy and is a shared responsibility between UNU-INWEH's International Advisory Committee, its management and staff. UNU-INWEH adopts a continuous approach to systematically identifying and monitoring risks that affect the ability of the Institute to achieve its objectives. The range of risks monitored by UNU-INWEH include strategic, governance, operational, compliance, and financial. These risks are monitored on a regular basis through risk audits and a risk register.



Theory of Change



About UNU-INWEH

UNU-INWEH was created by the United Nations University Governing Council in 1996 to help resolve water challenges and promote a water secure world for all through knowledge. It is hosted by the Government of Canada and McMaster University.

UNU-INWEH is one of 14 UNU institutes and training programmes around the world, located in 12 countries, that address pressing global problems of human survival, development and welfare through collaborative research and education.

UNU-INWEH is the only UNU institute that focuses solely on water issues. It is, moreover, the only entirely water-focused UN entity in Canada.



Endnotes

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³ Water related SDGs include SDG 3 (Good Health and Well-Being); SDG 6 (Clean Water and Sanitation); SDG 11 (Inclusive, Safe, Resilient and Sustainable Cities); and SDG 13 (Combat Climate Change).

⁴ Climate related risks refer to a range of potential hazards that are both slow onset (droughts due to changes in temperature and precipitation) and acute (tropical storms and floods). UNU-INWEH's focus is on climate risks that relate to water.

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