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Institute for Water,  
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**United Nations University  
Institute for Water, Environment and Health**

brief for

**The House of Commons' Standing Committee  
on Foreign Affairs and International Development**

in the context of its study on

**VULNERABILITIES CREATED AND EXACERBATED BY THE COVID-19  
PANDEMIC, PARTICULARLY IN FRAGILE, CONFLICT OR CRISIS SITUATIONS**

**January 2021**

The United Nations University Institute for Water, Environment and Health (UNU-INWEH) welcomes the opportunity to submit this input to the study on “Vulnerabilities created and exacerbated by the COVID-19 pandemic” undertaken by the Foreign Affairs and International Development (FAAE) Committee. UNU-INWEH is grateful to the Committee for the invitation to contribute. This brief brings a water perspective to the Committee’s Study. The key messages /recommendations are highlighted in the text in **bold**, and summarised at the end of the document

## WATER “PANDEMIC” AND COVID-19

COVID-19 pandemic demonstrates, amongst others, the critical importance of adequate access to safe water and sanitation for preventing and containing diseases - particularly for vulnerable populations - as well as the overall need for improved management of water resources globally. Sustainable Development Goal 6 (SDG6) on ensuring the availability and sustainable management of water and sanitation for all underpins, directly or indirectly, much of the UN’s Agenda 2030 for sustainable development. Growing water stress in different parts of the world has (or will soon have) far reaching consequences, impacting economic development, food security, health, energy production, poverty eradication and gender equality, amongst others.

Water experts and practitioners worldwide have long been trying to attract attention of governments and donors to the looming water crisis, exacerbated by unsustainable development practices and climate change, the later increasing the intensity and frequency of water-related disasters, amongst other impacts. There are currently over 2.3 billion people that live in water-stressed countries, of which over 720 million live in critically water-stressed countries<sup>1</sup>. Forms of water scarcity vary across the globe (Figure 1), with Africa standing out as a continent where *lack of access to water* for economy and *basic human needs* is chronic. Some 40% of the world population at present (around 3 billion people) do not have access to basic handwashing attributes – soap and water<sup>2</sup> - at home. In most African countries, it is 50 to 80 % of their populations, while such populous countries as India do not score much better. These are areas where *most vulnerable people* live. Some 2 billion people lack safely managed drinking water and 4.5 billion people lack safely managed sanitation<sup>1</sup>. In addition, over 3 billion people globally are at risk because the health of their freshwater ecosystems is unknown, while around 80% of domestic wastewater globally is released into environment untreated threatening human health<sup>2</sup>, and more than 140 million people are known to rely on contaminated surface water for drinking, sanitation and hygiene needs<sup>3</sup>. There are many more gruesome water-related global and regional statistics<sup>4</sup>.

Linked to the above, in developing world, many health centres lack basic facilities for hand hygiene and safe segregation and disposal of health care waste<sup>5</sup>. Basic water services are absent in 55% of health care facilities in Least Developed Countries. An estimated 900 million people globally (i.e. more than the populations of USA and Europe combined) use such health care facilities, and more than 1 million deaths each year – infants and mothers - are associated with births in unclean places alone. Overall, poor water sanitation and a lack of safe drinking water take an estimated 4.3 million people annually<sup>6</sup>.

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<sup>1</sup> Summary Progress Update 2021 – SDG 6 - water and sanitation for all (2021) UN-Water - forthcoming

<sup>2</sup> [www.washdata.org](http://www.washdata.org)

<sup>3</sup> WHO and UNICEF, 2019

<sup>4</sup> <https://inweh.unu.edu/global-water-crisis-the-facts/>

<sup>5</sup> [https://www.who.int/water\\_sanitation\\_health/publications/wash-in-health-care-facilities-global-report/en/](https://www.who.int/water_sanitation_health/publications/wash-in-health-care-facilities-global-report/en/)

<sup>6</sup> <https://www.voanews.com/archive/who-waterborne-disease-worlds-leading-killer>

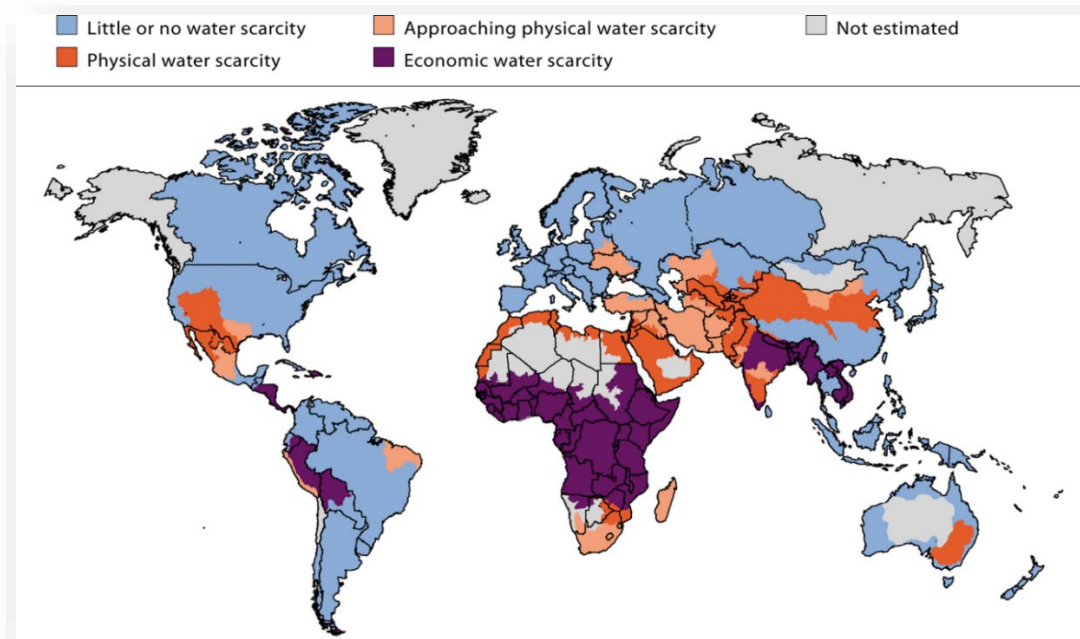


Figure 1. A global map of water scarcity. Source: IWMI, 2006<sup>7</sup>. Areas of physical water scarcity are those where naturally available water resources have been extensively (over 75%) developed. In areas of economic water scarcity, water resources may be abundant, but there is a lack of water infrastructure and, as a result - lack of access to water.

This situation can be described as a quiet water-related “pandemic”. It has been around for decades in the pre-COVID times. Since the beginning of this century, this water pandemic quietly killed more people than the World War Two<sup>8</sup>, and, at this pace, will kill another 40+ million (approximately equal to the current population of Canada) before the end of the era of UN’s Agenda 2030. People who are affected by this “water pandemic” are *poor and most vulnerable*; they live primarily in developing countries affected by either physical or economic water scarcity (Figure 1).

Alleviating, and with time – eradicating - water pandemic is largely the issue of political will and finance. The governments in the Global South face a myriad of development problems, and yet **access to basic water needs** is the problem of human right and dignity; as such, it may **need to receive priority in the developing aid allocation** by wealthy countries. Around USD 28 billion per year (from 2015 to 2030) are needed to extend basic WASH services to all unserved<sup>9</sup>. With “safely managed” “continuously available,” and “improved” services, the annual requirement rises to USD 114 billion. These are large amounts in absolute terms but only a fraction of, for example, NATO’s total annual military spending.

<sup>7</sup> <https://www.iwmi.cgiar.org/what-we-do/impact-assessment/outcome-stories/outcome-stories-2007/iwmis-water-scarcity-map-for-the-comprehensive-assessment-of-water-management-in-agriculture-ca/>

<sup>8</sup> <https://courses.lumenlearning.com/suny-heccc-worldhistory2/chapter/casualties-of-world-war-ii/>

<sup>9</sup> Hutton, G. and Varughese, M. (2016) The Costs of Meeting the 2030 Sustainable Development Goal Targets on Drinking Water, Sanitation, and Hygiene. Summary Report. World Bank Group, 11 pp

The above levels of financing have never been achieved. The world has already been off-track to meeting the targets of SDG 6 even before the COVID-19 pandemic<sup>10 11</sup>, and the current COVID-19 pandemic slowed this progress already. When COVID-19 pandemic is over, unresolved chronic problems<sup>12</sup>, like lack of water supply and sanitation, will remain. It may then be even more difficult to mobilise the required financing for eradication of long-standing water pandemic. But with properly **targeted funding**, it may be eradicated in at least **several countries**. Alternatively, at least some of the problem components can be resolved universally, like **ensuring that all medical facilities around the globe have proper access to water and sanitation** by 2030. Canada might consider **joining efforts to design and implement such geographically or thematically focused development assistance programs** in the post-COVID world with similarly minded nations.

## WATER, CONFLICTS AND HUMAN DISPLACEMENT

Lack of access to water, sanitation and health facilities, exacerbated by COVID-19 impacts (and impacts of possible future pandemics) may also promote conflicts and human involuntary displacement. Interconnections between water, migration and conflicts are complex (Figure 2). We emphasise the issue of water and displacement because it is often neglected in the global migration discourse. At the same time, the scale of migration phenomenon is consistently growing; there are estimated 700 million people that could be displaced due to scarcity of water by 2030, and by 2050, a combination of water and climate-driven problems and conflicts will force 1 billion people to migrate, not by choice but as their only option<sup>13</sup>. Assessments further suggest that fragile contexts are a home to 1.8 billion people (23% of the global population), and that around 75% of the people living in fragile settings are trapped by extreme poverty<sup>14</sup>. An estimated 800 million children live in fragile and conflict-affected areas<sup>15</sup>, over 30 million children live in forced displacement and around 3.7 million children live in refugee camps<sup>16</sup>.

*Displaced women and children are among the most vulnerable populations on the globe.* They live in deprived urban areas or slums, shelters and camps where they are in critical need for health services, clean water, and sanitation<sup>17</sup>. The impacts of the COVID-19 pandemic are generally stronger in such crowded contexts with poor water infrastructure where social distancing and washing hands with soap and water are impossible. With many other challenges and barriers, displaced people are at greater risk of contracting and spreading COVID-19 and are hit hard by other, non-health, impacts of pandemics.

<sup>10</sup> [https://www.unwater.org/publication\\_categories/sdg-6-synthesis-report-2018-on-water-and-sanitation/](https://www.unwater.org/publication_categories/sdg-6-synthesis-report-2018-on-water-and-sanitation/)

<sup>11</sup> [https://sustainabledevelopment.un.org/content/documents/24978Report\\_of\\_the\\_SG\\_on\\_SDG\\_Progress\\_2019.pdf](https://sustainabledevelopment.un.org/content/documents/24978Report_of_the_SG_on_SDG_Progress_2019.pdf)

<sup>12</sup> UN General Assembly Resolution A/RES/74/270 adopted by the General Assembly on 2 April 2020. Available at: <https://undocs.org/A/RES/74/270>

<sup>13</sup> Nagabhatla, N., Pouramin, P., Brahmabhatt, R., Fioret, C., Glickman, T., Newbold, K. B., Smakhtin, V., 2020. Water and Migration: A Global Overview. UNU-INWEH Report Series, Issue 10. United Nations University Institute for Water, Environment and Health, Hamilton, Canada. <https://inweh.unu.edu/wp-content/uploads/2020/05/Migration-and-Water-A-Global-Overview.pdf>

<sup>14</sup> OECD (Organisation for Economic Co-operation and Development) 2020. Covid-19, Crises and Fragility. Tackling Coronavirus (COVID-19): contribution to a Global Effort. Available at: [https://read.oecd-ilibrary.org/view/?ref=131\\_131938-b9ys3suiav&title=COVID-19-Crises-and-Fragility](https://read.oecd-ilibrary.org/view/?ref=131_131938-b9ys3suiav&title=COVID-19-Crises-and-Fragility)

<sup>15</sup> UNICEF (United Nations Children's Fund) 2020. Fast facts: WASH in conflict. UNICEF. Available at: <https://www.unicef.org/stories/fast-facts-water-sanitation-hygiene-conflict>

<sup>16</sup> UNHCR (United Nations High Commissioner for Refugees) 2020a. Global Trends: Forced Displacement in 2019. UNHCR, Copenhagen, Denmark. Available at: <https://www.unhcr.org/globaltrends2019/>

<sup>17</sup> UNHCR (United Nations High Commissioner for Refugees) 2020b. UN Refugee Agency Steps Up COVID-19 Preparedness, Prevention, and Response Measures. Press Release, 10 March 2020. Available at [www.unhcr.org/uk/news/press/2020/3/5e677f634/unrefugee-agency-steps-covid-19-preparedness-prevention-response-measures.html](http://www.unhcr.org/uk/news/press/2020/3/5e677f634/unrefugee-agency-steps-covid-19-preparedness-prevention-response-measures.html)

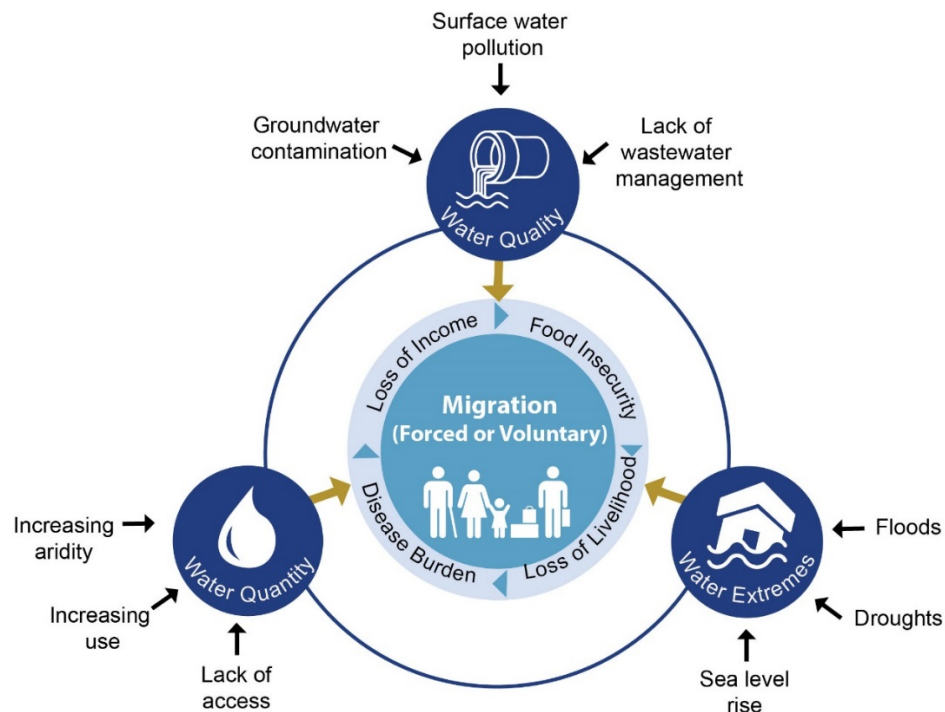


Figure 2. The interlinkages between water and human migration. Specific push factors (black arrows) affect three key dimensions of water resources (quantity, quality, and extremes - dark blue circles) that can act individually or collectively and result in specific consequences (e.g., diseases food insecurity, lack of livelihood, etc.). These consequences can, in turn, individually or collectively, trigger migration, often forced / involuntary<sup>18</sup>.

Actions are needed to put displaced people, particularly women and children, at the forefront of preparedness, prevention, and response to COVID-19<sup>19</sup>. It is important to develop and implement social protection policies and initiatives to effectively decrease the economic and social impact of COVID-19 on families living in situations of conflict, crisis and fragility<sup>20</sup>. **Ensuring adequate access to clean water, sanitation, and good hygiene practices on one hand, and safeguarding universal access to COVID-19 testing and health care for all involuntary displaced and hence most vulnerable people** – are among the most critical of such initiatives. If water access is not ensured for displaced people, the COVID-19 pandemic will not be eradicated in such contexts; if it is not eradicated at least in one place on the globe, it is not eradicated at all.

<sup>18</sup> Nagabhatla, N., Pouramin, P., Brahmabhatt, R., Fioret, C., Glickman, T., Newbold, K. B., Smakhtin, V., 2020. Water and Migration: A Global Overview. UNU-INWEH Report Series, Issue 10. United Nations University Institute for Water, Environment and Health, Hamilton, Canada. <https://inweh.unu.edu/wp-content/uploads/2020/05/Migration-and-Water-A-Global-Overview.pdf>

<sup>19</sup> Anjum, Z. and Nagabhatla, N. (2020) Women, WASH & COVID-19: The 'burdens of' and 'opportunities for' the vulnerable. [https://www.researchgate.net/publication/342957618\\_Women\\_WASH\\_COVID-19\\_The\\_%27burdens\\_of%27\\_and\\_%27opportunities\\_for%27\\_the\\_vulnerable](https://www.researchgate.net/publication/342957618_Women_WASH_COVID-19_The_%27burdens_of%27_and_%27opportunities_for%27_the_vulnerable)

<sup>20</sup> You D, Lindt N, Allen R, Hansen C, Beise J, Blume S. 2020. Migrant and displaced children in the age of COVID-19: How the pandemic is impacting them and what we can do to help. Migration Policy Practice X (2): 32-39

At the same time, it should be very clear also that such interventions for displaced people, although critically important, **can only alleviate the impacts and tensions partially and temporarily**, because they are dealing with the consequences of displacement. In order to fully resolve a range of issues associated with involuntary displacement globally, **the triggers of and reasons for such displacement need to be eradicated**, which is the major challenge of a different caliber.

## INFORMATION AND SURVEILLANCE SYSTEMS

While COVID-19 pandemic significantly affected many developed nations, the impacts statistics from the global South are hardly reliable<sup>21</sup>, and the real extent of COVID-19 spread in developing nations is likely more significant. Considering health infrastructure in developing countries, the monitoring of infection spread is challenging due to lack of disease surveillance systems and timely reporting. It is therefore **important to develop national information and surveillance systems that will provide accurate data on the scale and impacts of infection**. Using water-related proxy measures for monitoring this may be considered in this context. There is some emerging evidence that measuring presence of COVID-19 in wastewater in urban areas may be done as such a proxy and that it may be quicker than acquisition of medical information from health institutions<sup>22 23</sup>. **Developing such ‘water-centric’ monitoring/surveillance systems of infection spread may be beneficial in such contexts.**

There is also a broader issue of overall improvement of data and information flows from the global South as overall progress on all SDGs is assessed based on official data sources. National water-related data and statistics, for example, also suffer from the lack of accuracy<sup>24</sup>, and it is essential to **further improve water monitoring by developing relevant national technical and institutional capacity and infrastructure. Improving multi-purpose national data collection and information systems** may be seen as preparedness measure for future pandemics.

A related recommendation could be to **extract lessons from the current pandemic and evaluate what information gaps exist, where, and how they can be rectified**. Such an analysis needs a fraction of funding compared to earlier mentioned universal water and sanitation provision to vulnerable nations. Therefore, it can be accomplished in the immediate future, and its recommendations implemented in subsequent years. At the very least, this can be done at the scale of sub-Saharan Africa, dominated by lack of access to both water and health facilities. Stronger national information and monitoring systems will allow better targeted and quicker anti-pandemic interventions to be implemented in the future.

## LIVING WITH PANDEMICS

The COVID-19 pandemic is neither the first in modern history, nor the last. There are hundreds of thousands of viruses that exist in mammals and birds that could potentially infect people<sup>25</sup>. It is likely that future pandemics may become more frequent. They may also spread more rapidly, do more damage to the world economy and be more lethal than the current pandemic - unless the approach to dealing with infectious

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<sup>21</sup><https://www.worldometers.info/coronavirus/>

<sup>22</sup> Michael-Kordatou I, Karaolia P, Fatta-Kassinos D. Sewage analysis as a tool for the COVID-19 pandemic response and management: the urgent need for optimised protocols for SARS-CoV-2 detection and quantification. *J Environ Chem Eng.* 2020;8(5):104306. doi:10.1016/j.jece.2020.104306. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7384408/>

<sup>23</sup> <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/wastewater-surveillance/developing-a-wastewater-surveillance-sampling-strategy.html>

<sup>24</sup> Summary Progress Update 2021 – SDG 6 - water and sanitation for all (2021) UN-Water - forthcoming

<sup>25</sup> <http://www.ipbes.net/pandemics>



diseases changes. There is evidence that zoonotic<sup>26</sup> diseases (including those caused by COVID-19 type of viruses) are linked to alteration of ecosystems – both aquatic and terrestrial – and to associated biodiversity loss. With expanding urbanisation, draining wetlands and floodplains, land-use change to agricultural land etc., the interactions between species from different habitats are increasing and virus spread to humans is more likely<sup>27</sup>.

Pandemic risks can therefore be alleviated by arresting the still dominating global practice of unsustainable natural resources development and management. Arresting this practice means that the change needed is from reaction to pandemics (as it is now in the case of COVID19) to prevention<sup>19</sup>. Estimates suggest that a cost of reducing risks to prevent pandemics may be 100 times less than the cost of responding to such pandemics<sup>19</sup>; this is an economic incentive for the required change.

The governments (including Canadian government) need to start considering the above. While such a change will not happen quickly, it may, with time, change the entire philosophy of development aid. Possible investment decisions need to be either reactive or preventive. It would be impossible though, in the nearest future, to avoid reactive approach, hence there should be a blend of reactive and preventive measures. In this context, we would like to support the idea of **establishing an Intergovernmental Council on Pandemic Prevention (ICPP)** - a science-policy interface platform similar to, for example, Intergovernmental Panel on Climate Change (IPCC). Such a council / platform could provide decision-makers with evidence on emerging diseases, estimate economic impact of pandemics and highlight knowledge gaps. **Examining possible logistics of establishing such a council, may be added to the current Study of FAAE Committee**, as a minimum. At a maximum, if the idea of a Council turns out to be appealing and receive further traction, **Canada may consider taking the lead in this, or join forces with other interested governments.**

We anticipate that **water issues could be**, if not a priority **focus in such an intergovernmental forum**, but at least **a strong component of it**. It must be noted that ideas of preventive interventions vs reactive have existed in the water sector for some time. The concepts of “living with floods” or “drought preparedness planning”, for example, are widely known; yet their practical implementation, particularly in the Global South, happens slowly. We anticipate that if the current pandemic triggers, amongst others, the development of the global intergovernmental forum to alleviate future pandemic risks, it will accelerate the so much needed transformative change in the global water sector as well.

## SUMMARY OF RECOMMENDATIONS

1. Lack of access to water and sanitation kills, by itself, twice as many people globally every year as COVID-19 pandemic. It also accelerates infection spread. Access to basic water needs is the problem of human right and dignity and may need to receive priority in the developing aid allocation. Although funds are and will be tight, with properly targeted funding, the problem of water access may be eradicated in at least several countries. Alternatively, at least some of the problem components can be resolved universally, like ensuring that all medical facilities in the global South have proper access to water and sanitation by 2030. Canada might consider joining efforts to design and implement such geographically or thematically focused development assistance interventions in the post-COVID world with similarly minded nations.

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<sup>26</sup> diseases that pass from an animal or insect to a human

<sup>27</sup> Allen, T., Murray, K.A., Zambrana-Torrel, C. et al. Global hotspots and correlates of emerging zoonotic diseases. Nat Commun 8, 1124 (2017). <https://doi.org/10.1038/s41467-017-00923-8>

2. Involuntary displaced women and children are among the most vulnerable populations on the globe; the scale of such displacement is increasing, due to conflicts; and water scarcity, quality and disasters exacerbate it. COVID-19 hits the displaced even harder. Ensuring adequate access to clean water, sanitation, and good hygiene practices on one hand, and safeguarding universal access to COVID-19 testing and health care for all involuntary displaced is imperative. Prioritise this group for assistance. At the same time, work to alleviate political instability and to ensure basic human needs in affected regions: only with this the flow of involuntary displaced can reduce.
3. Develop national information and surveillance systems that will provide accurate data on the scale and impacts of infection. Consider using water-related proxy measures for monitoring COVID-19, e.g. through measuring it in urban wastewater. Develop relevant national technical and institutional capacity and infrastructure for monitoring. Improving multi-purpose national data collection and information systems should be seen as preparedness measure for future pandemics. Extract lessons from the current COVID-19 pandemic and evaluate what information gaps exist, where, and how they can be rectified
4. As more frequent and intense pandemics may be anticipated in the future, reactive approach is not sufficient. Preventive measures need to be introduced consistently. Establish an Intergovernmental Council on Pandemic Prevention (ICPP) - a science-policy interface platform. It will provide decision-makers with evidence on emerging diseases, estimate economic impact of pandemics and highlight knowledge gaps. A recommendation for immediate action may be to examine possible logistics of establishing such a council, as a minimum. At a maximum, if the idea of a Council turns out to be appealing and receive further traction, Canada may consider taking the lead in this, or join forces with other interested governments. It is anticipated that water issues could be, if not a priority focus in such an intergovernmental forum, but an integral component of it

## **ABOUT UNU-INWEH**

*[UNU-INWEH](#) is part of the United Nations University (UNU) - an academic arm of the UN. The University's 13 research and training institutes are located in 12 countries and address a range of global development challenges. UNU-INWEH's primary focus is water; it is the entry point to UNU-INWEH's research and training activities in the areas of environment and health. The Institute works to bridge the gap between the wealth of knowledge that exists on water resources and their management, and the practical needs that political leaders and decision makers, particularly in low- and middle-income countries of the Global South, have. UNU-INWEH was established in 1996. Its operations are secured through long-term host-country and core-funding agreements with Global Affairs Canada. The Institute is located in Hamilton, Ontario; its facilities are supported by McMaster University. UNU-INWEH is the only Institute in the UNU that focuses exclusively on water issues. It is also the only entirely water-focused UN entity in Canada.*

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