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INVITED COMMENTARY

From *water2me* to *water4all*: Democratizing the discussion of global water futures through crowdsourcing of individual water values

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'A water crisis is a global crisis. Without sustainable access to water, we will be unable to achieve goals such as quality education or the development of more prosperous, fairer societies. History has demonstrated this. In China and in the Middle East, for example, the major rivers (the Yangtze, Nile and Euphrates) made the first great agrarian and urban civilizations possible. Given the urgency of the situation, the coming decade needs to be one of action.' Audrey Azoulay, Director-General of UNESCO's reflection on UN World Water Day in 2020.

2020 marked the 75th anniversary of the United Nations with a high-level meeting of the UN General Assembly held in November to reaffirm Member States collective commitment to multilateralism under the title, *The Future We Want, the UN We Need*. The UN launched a global consultation where 'people from all walks of life were asked about their hopes and fears for the future, their priorities for international cooperation and for the United Nations in particular'. Over 1 million people responded worldwide with key findings captured in a report. As may be expected amidst the current pandemic, the immediate priority of respondents was improved access to basic services: water, sanitation, healthcare and education. Looking over a 25-year horizon, our 'inability to stem the climate crisis' and 'destruction of the natural environment' were respondents' overwhelming concerns. At the core of these immediate and longer-term concerns is water.

Our collective ability to value water (Figure 1) and embed values appropriately into decision making remains inadequate (Garrick et al., 2017), in part, because the dynamics and complexity of human

perturbations of hydrological processes have yet to be quantified fully (Hoekstra & Mekonnen, 2012; Vörösmarty et al., 2010). It is critical to understand hydrological processes in the connected terrestrial and atmospheric compartments of the water cycle and to connect the drivers of change across scales, including people (Kingston et al., 2020; Levia et al., 2020). This becomes even more pressing in the context of record levels of water extremes (including flooding, drought and pollution events), shifting water demands due to conflicts and displacement (Mekonnen & Hoekstra, 2016), and the additional pressures caused by the ongoing COVID-19 pandemic (Hannah et al., 2020). The last year has demonstrated like never before how closely our health, wellbeing and livelihoods are interlinked with safe and sufficient access to clean water. Furthermore, it has been shown how shortage of water resources, plus the lack of basic infrastructure and ageing of existing water infrastructure, accelerate conflicting demands for water between different water users as well as within households.

World Water Day (WWD) is an UN observance, held on 22 March every year since 1993, which celebrates water and raises awareness of freshwater related issues. The focus is on how we can work together to tackle the global water crisis and deliver on Sustainable Development Goal 6 – water and sanitation for all by 2030. UNESCO's World Water Development Report (WWDR) is released each year on or near WWD. The theme for WWD is aligned with the WWDR. WWDR2021 'assesses the current status of, and challenges to, the valuation of water across different sectors and perspectives, and identifies ways in which valuation can be promoted as a tool to

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FIGURE 1 Diverse perspectives on how water is valued individually and collectively, summarizing the Water2me theme of World Water Day 2021

help improve its management and achieve global sustainable development’.

The theme of this year’s UN World Water Day #Water2me could not be more timely as it recognizes the very individual nature of our relationship with, and dependence on, water. We hope that this focus will stimulate a conversation about how our joint individual water needs and values, their similarities as well as conflicts, can lead us towards development of more collective and global water visions (i.e., a necessary transition from Water2me to Water4all; Figure 2). Such a conversation requires interactive dialogue between individuals, communities and organizations to conceptualize and implement innovative solutions to meet individual and collective water demands in a world with drastically changing water resources (Abbott et al., 2019).

We take the opportunity of the virtual 2021 Global World Water Day Symposium on 22 March (in partnership with our UNESCO Chair and UNTWIN and the Institute for Global Innovation) to initiate an open and inclusive conversation about how we individually value water and indeed whether we value water enough. By crowdsourcing individual water values, we will develop a collective understanding of how we can integrate different perspectives into global water futures that benefit all.

Managing the diverse, and potentially conflicting, individual and collective needs and water values requires detailed understanding of the hydrological processes controlling water quantity and quality and the various prioritizations of demand. In this context, we call on the international community, as represented by the *Hydrological Processes* readership, to participate actively by submitting your views during and after the UN World Water Day symposium. Through this virtual dialogue, we will advance collectively the discussion of how we transition from Water2me towards Water4all. Please submit your views on individual and collective water values here and share the link as widely as possible within your personal and professional networks <https://www.menti.com/q8hs6e3sef>.



FIGURE 2 Transition from Water2me to Water4all. Join the discussion on how we make advances in water management collectively by completing our survey: www.menti.com using the code 5696 763

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REFERENCES

- Abbott, B. W., Bishop, K., Zarnetske, J. P., Minaudo, C., Chapin III, F. S., Krause, S., Hannah, D. M., Conner, L., Ellison, D., Godsey, S. E., Plont, S., Marçais, J., Kolbe, T., Huebner, A., Frei, R. J., Hampton, T., Gu, S., Buhman, M., Sayedi, S. S., Ursache, P., & Pinay, G. (2019). Human domination of the global water cycle absent from depictions and perceptions. *Nature Geoscience*, 12, 533–540. <https://doi.org/10.1038/s41561-019-0374-y>
- Garrick, D. E., Hall, J. W., Dobson, A., Damania, R., Grafton, R. Q., Hope, R., Hepburn, C., Bark, R., Boltz, F., De Stefano, L., O'Donnell, E., Matthews, N., & Money, A. (2017). Valuing water for sustainable

- development. *Science*, 358(6366), 1003–1005. <https://doi.org/10.1126/science.aao4942>
- Hannah, D. M., Lynch, I., Mao, F., Miller, J. D., Young, S. L., & Krause, S. (2020). Water and sanitation for all in a pandemic. *Nature Sustainability*, 3, 773–775. <https://doi.org/10.1038/s41893-020-0593-7>
- Hoekstra, A. Y., & Mekonnen, M. M. (2012). The water footprint of humanity. *Proceedings of the National Academy of Sciences of the United States of America*, 109, 3232–3237.
- Kingston, D. G., Massei, N., Dieppois, B., Hannah, D. M., Hartman, A., Lavers, D. A., & Vidal, J.-P. (2020). Moving beyond the catchment scale: Value and opportunities in large-scale hydrology to understand our changing world. *Hydrological Processes*, 34, 2292–2298. <https://doi.org/10.1002/hyp.137>
- Levia, D. F., Creed, I. F., Bruen, M., Hannah, D. M., Nanko, K., Boyer, E. W., Carlyle-Moses, D. E., van de Giesen, N., Grasso, D., Guswa, A. J., Hudson, J. E., Hudson, S. A., Shin'ichi, I., Jackson, R. B., Katul, G. G., Kumagai, T., Llorens, P., Ribeiro, F. L., Pataki, D. E., ... Zalewski, M. (2020). Homogenization of the terrestrial water cycle. *Nature Geoscience*, 13, 656–658. <https://doi.org/10.1038/s41561-020-0641-y>
- Mekonnen, M. M., & Hoekstra, A. Y. (2016). Four billion people facing severe water scarcity. *Science Advances*, 2, e1500323.
- Vörösmarty, C. J., McIntyre, P. B., Gessner, M. O., Dudgeon, D., Prusevich, A., Green, P., Glidden, S., Bunn, S. E., Sullivan, C. A., Liermann, C. R., & Davies, P. M. (2010). Global threats to human water security and river biodiversity. *Nature*, 467, 555–561.

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