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Swimmable Futures: Reimagining Water Stewardship through Youth and Community

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Abstract
Wavemakers United (WU) is a global initiative reimagining water stewardship by linking sport, youth leadership and community action. Responding to the limits of technocratic governance, WU frames water as a civic commons: shared, cultural and co-governed. By amplifying existing initiatives like Swimmable Cities and Drinkable Rivers, it mobilizes youth as ambassadors, educators and policy contributors who cocreate more inclusive and resilient water systems. From riverbank restoration to Olympic activism, WU combines hands-on learning with public imagination, shifting focus from regulatory compliance to justice-centered restoration. With more than 50,000 students and young professionals engaged across more than 60 countries, WU shows how water literacy, civic participation and intergenerational care can reshape access, equity and meaning in urban waterscapes. This article examines WU's model as a pathway toward systemic change – one that empowers communities not only to care for water, but also to co-author its future.

KEYWORDS

water
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WATER ICONS

Policy Recommendations

- Integrate water literacy into national education curricula by combining scientific, civic and place-based learning. Activities like water testing, mapping and local river walks foster early stewardship and support SDGs 4 (Quality Education) and 6 (Clean Water and Sanitation).
- Fund youth-led water programs through small grants, school clubs and ambassador schemes, especially in communities affected by environmental injustice.
- Reclassify urban waterways as public spaces by enabling swimming zones, improving water quality monitoring and investing in safe and equitable access.

< Fig. 1 Science Weekend at IHE Delft (Source: Wavemakers United, 2025).

Introduction: The Power of Engagement

Although often overlooked, water is essential for survival, ecosystems and culture. In cities, it operates as invisible infrastructure, usually only noticed during scarcity, flooding or crisis. In Europe alone, nearly 60 per cent of surface waters fail to meet ecological standards (EEA 2025), while climate change deepens disparities, especially in low-income and marginalized communities. Water's "invisibility" stems from its treatment as a neutral, technical object to be managed and controlled, detached from its social and political dimensions (Linton 2010). Amid mounting pressures, a key question emerges: Who ensures that water remains clean, safe and accessible? While expert-driven models have improved sanitation and supply, they often depoliticize governance and cast citizens as passive consumers rather than political actors (Swyngedouw 2004). This reflects what scholars call the hydraulic paradigm: an engineering-led, technocratic approach that renders water measurable and placeless, stripped of cultural meaning and local knowledge (Linton 2010; Bakker 2003; Franco-Torres et al. 2020; Neimanis 2016; Sofoulis 2005). In doing so, it erases water's relational dimensions and those most affected by its flow (Linton and Budds 2014).

In response, participatory, justice-driven models of stewardship are emerging – ones that reflect lived experience and a sense of shared responsibility. Wavemakers United (WU), a global initiative linking education and action, treats water as a civic commons and something to be valued and co-governed. Through sport, youth leadership and community engagement, WU fosters water literacy, emotional connection and political agency. It trains young people as stewards and policy interlocutors, equipping them to tackle water and climate challenges through innovation, collaboration and capacity building. Partnering with more than 200 universities in 62 countries and with organizations like the French-African Foundation, the International Student Environmental Coalition (ISEC) and Water Youth Network, WU has trained more than 1,000 students to deliver guest lectures and it has reached more than 350,000 young people through education and outreach. By amplifying initiatives like Swimmable Cities and Drinkable Rivers, WU promotes clean urban waters and reimagines public engagement – offering a care-based model of stewardship rooted in systemic change and long-term participation.

The Vision: Rethinking Who Shapes Water

Although different initiatives, Swimmable Cities and Drinkable Rivers reimagine urban water as a civic right and a marker of social equity, environmental health and democratic vitality. Here, "swimmable" and "drinkable" are more than technical thresholds: They reflect infrastructural choices and political values that shape urban life (Anand 2018; Carse 2014). Clean, accessible water signals effective governance; when unsafe, it reveals deeper patterns of neglect and exclusion. These initiatives are both symbolic and practical. The sight of people swimming or gathering at rivers signals that water is cared for and democratically shared. Urban waterscapes are shaped not only by pipes and pumps but also by contested meanings, memories and spatial claims (Gandy 2014). Rivers have always been envirotechnical systems, products of both ecological processes and technological control (Pritchard 2011). Yet how people narrate, contest and inhabit these spaces reveals their deep social embeddedness (Anderson et al. 2019, Barca 2010; Jakobsson 2008; Wohl 2001). Reclaim-

^ Fig. 2 Wave of Egypt Summer Students Camp (Wavemakers United, 2024).

ing rivers challenges assumptions that they exist only for transport or drainage and instead restores them as civic spaces long sidelined by modernist planning (Kaika 2005). This shift points to a different kind of urban design, one that centers restoration, belonging and everyday human-water relationships.

In many cities, rivers and canals remain working waterways historically designed for transport, trade and industry. Commercial and recreational shipping often still dominate, creating logistical and legal barriers to public access. Reimagining these spaces means confronting inherited envirotechnical regimes (Pritchard 2011) and resisting the tendency to reduce water to economic growth metrics. Reclassification efforts require policy reform, infrastructure investment and water-quality monitoring. These transitions reflect a broader reframing: Water is no longer just a technical issue but a moral and political indicator of collective well-being. Swimmable and drinkable waters symbolize not only ecological function, but also inclusion, safety and visibility in public life. The Seine's €1.4 billion transformation for the 2024 Olympics reconnected Parisians with their river. In Rotterdam, the Rijnhaven evolved from harbor basin to multi-use civic space that includes public swimming. Berlin's Spree shows similar momentum, with groups like Flussbad Berlin using real-time monitoring, civic actions and public events to reclaim access. Together, these examples suggest that reclaiming water as a civic space requires both structural reform and symbolic action (Foote 2025; Kenningham 2025).

Swimming, in these cases, becomes more than recreation: It is an "intimate" political act of reclaiming the city (Gandy 2014). For communities historically excluded through pollution, privatization or displacement, the right to swim or drink from local rivers is a claim to place. Across

^ Fig. 3 Vliet Clean SUP event hosted by Sport en Welzijn in Leidschendam, the Netherlands (Wavemakers United, 2025).

many cities, marginalized groups – especially low-income, racialized and migrant communities – have long been disproportionately affected by infrastructural neglect, industrial zoning and gentrification. These exclusions are not accidental. They reflect long-standing patterns of inequality embedded in urban design (Kaika 2005; Swyngedouw 2004). Restoring access is thus not only about cleaning water but about repairing relationships. It is a form of spatial justice (Harvey 2008; Soja 2010). Reimagining water access affirms a shared stake in urban futures and a dignified connection to place. It prompts new questions: Who gets to make use of, enjoy and make decisions about clean water?

This shift challenges governance models focused on efficiency and compliance, calling instead for ecological restoration, public access and cultural connection. What if cities were planned with 15 year olds in mind – youth who already face the everyday impacts of pollution, flooding and exclusion, and who are deeply connected to river-linked supply chains? Their perspectives can reorient priorities – asking not just what counts as swimmable, but who defines those terms in the first place. Inclusive planning must honor the full value of water – from mobility and heritage to health and leisure – and re-politicize governance by exposing the social relations embedded in its flow (Hein 2025; Linton 2010). Rather than assuming a singular value system, governance must support participatory processes. WU addresses this need by training youth ambassadors in water science, civic advocacy and stewardship. These young leaders monitor local waterways, engage peers and contribute to policymaking – reframing water governance as intergenerational and justice-oriented. Swimmable Cities and Drinkable Rivers, in this light, are not just awareness campaigns: They represent a narrative shift concerning who water is for, how it is used and how it can be governed with justice and care.

^ Fig. 4 Wave of Indonesia at SD Islam Nural Jihad school in Lombok, Indonesia (Wavemakers United, 2025).

Driving Change: The Role of Sport, Youth and Community Action

The WU model rests on three interdependent pillars: sport, youth leadership and community action. Together, they connect personal experience with systemic change to build a culture of water stewardship that is participatory, relational and place-based. Sport, the first pillar, serves not merely as recreation but as an entry to civic engagement. Water-based activities like swimming, surfing and paddling create embodied, emotional connections to aquatic environments, often providing participants with their first meaningful contact with water. Such experiences can transform abstract concerns into personal commitments. Athletes – from Olympians to local surf instructors – use their visibility to advocate for water equity and access. In doing so, they help shift public narratives from risk and restriction to inclusion, joy and shared belonging, and reframe swimmable water as a public right rather than a privilege.

Youth leadership anchors the second pillar. WU trains young ambassadors in water science, civic engagement and advocacy, positioning them as catalysts of change, not symbolic participants. Many come from communities facing environmental injustices, including polluted waterways and flood-prone neighborhoods with limited access to safe and clean water. These young leaders bring critical local knowledge to governance, democratizing expertise and disrupting top-down decision-making. To sustain and scale these efforts, policymakers

^ Fig. 5 Wave of Malawi at Matiya Primary School in Zomba, Malawi (Wavemakers United, 2025).

should establish dedicated funding mechanisms such as small-grant schemes, ambassador programs and school-based clubs that provide youth with resources, mentorship and access to decision-making spaces. Ministries of environment, education and youth affairs can play a key role in coordinating and supporting such initiatives. Including water literacy into these programs is essential, not only teaching scientific knowledge but also cultivating civic awareness, systems thinking and a personal connection to local water challenges.

By translating technical concepts into accessible narratives, facilitating dialogue and leading community projects, these youth infuse water policy with care, urgency and accountability. This involvement redefines stewardship as a shared, distributed practice grounded in lived experience and intergenerational responsibility. Many stay engaged beyond individual projects, becoming long-term educators, advocates and organizers who build community capacity and sustain momentum. These kinds of youth-led efforts align with global priorities, including SDG 4 (Quality Education) and SDG 6 (Clean Water and Sanitation). They can be further strengthened through partnerships with educational ministries and civil society organizations such as WU. In this way, youth participation becomes more than an educational goal: It is a structural investment in the future of water governance. Programs that support youth-led engagement have the potential to shift institutional cultures by normalizing inclusion, responsiveness and community-based knowledge. When young people see their insights reflected in real decisions, it cultivates trust and long-term democratic participation.

Community engagement completes the model. Through citizen science, school-based programs, public storytelling and intergenerational events, WU creates participatory platforms where environmental knowledge is co-produced, not just delivered. These efforts center lived experience and treat water stewardship as an everyday civic act. They move beyond one-off awareness campaigns, instead fostering sustained dialogue and elevating local expertise. In doing so, WU builds a participatory infrastructure that embeds cultural, social and ecological care into the rhythms of urban life. This model does not separate education from action, or youth from policy, but intentionally weaves them together, making water governance more inclusive, responsive and resilient over time. Ultimately, the goal is to empower communities to act not as passive recipients of policy, but as cocreators of the practices and priorities that shape their waterscapes. The strength of WU's global movement lies in its continuity: Ambassadors are not just trained and then left behind. They remain engaged in a vibrant network of peers and professionals advancing water and climate solutions across borders.

Actionable Outcomes: What Success Looks Like

To date, WU has engaged over 350,000 young people through experiential, water-centered education. These programs blend scientific learning with civic participation, embedding hydrological knowledge in hands-on practices such as water monitoring, riverbank restoration and community outreach. Active in at least 10 urban contexts – including Jakarta, Cairo and Rotterdam – youth-led projects demonstrate the model's adaptability and impact. Rather than using a one-size-fits-all approach, WU offers a flexible framework tailored to local ecological, social and infrastructural realities. In some cities, this means integrating water literacy into school curricula; in others, it centers on recreational access, green infrastructure or public health. Across all sites, youth engagement, sport-based learning and community leadership are treated not as add-ons but as core mechanisms for systemic change. These elements foster technical skills and environmental awareness, but also civic confidence, personal agency and a lasting sense of public responsibility. As participants evolve from learners to advocates, they help catalyze cultural shifts in how communities value, protect and care for water.

These efforts are further amplified through collaborations with initiatives like Swimmable Cities and Drinkable Rivers. The vision of rivers clean enough to swim in or drink from shifts ambition from regulatory compliance to justice-oriented transformation. "Swimmable" and "drinkable" are more than technical thresholds: They reflect ecological integrity, civic trust and inclusive governance. This framing unites diverse coalitions – e.g., of youth, educators, scientists, policymakers and artists – to reimagine water not just as infrastructure, but as a civic and cultural space. While governance structures are still evolving, participating cities report tangible results: increased environmental literacy, youth leadership and broader public engagement in water-related decision-making. Even more powerful are the personal narratives behind these shifts. Young people once excluded from water spaces now serve as educators, organizers and policy contributors. Their leadership represents a new kind of stewardship: distributed, intergenerational and place-based. By scaling proven initiatives and embedding water literacy into civic life, WU offers a flexible, replicable model for shaping water governance through education, sport and community action.

Conclusion: A Global Movement Starts with a Local Splash

WU calls for rethinking water stewardship in the twenty-first century. Instead of treating water as a passive resource managed by experts, it reframes it as a cultural commons – shared, dynamic and rooted in care (Gandy 2014; Linton 2010; Neimanis 2016). WU foregrounds elements often sidelined in governance: joy, embodiment, relationality and place-based connection. Through sport, storytelling, youth-led science and intergenerational exchange, it builds emotionally resonant ties to water that foster civic participation. Water becomes not background infrastructure, but a living part of memory, identity and daily life. Waterscapes are deeply cultural: Their "fabric" reveals tensions between control, imagination and civic life. While governance often centers institutions and formal decisions, stewardship emphasizes everyday practices and relationships. Rather than opposing governance, it expands it – inviting new actors, knowledge and participation. In this view, stewardship is not just a distant policy goal, but a shared cultural practice sustained by connection and community. People are empowered not just as users, but as co-authors of more just and resilient water futures.

Yet shifting from engineering-led, technocratic governance to participatory, justice-driven stewardship is not without friction. Institutional inertia, fragmented mandates and risk-averse cultures often limit experimentation and inclusive engagement. Municipal utilities and regulatory agencies may struggle to adapt to models rooted in emotional connection, civic imagination and lived experience. But momentum is growing. Global frameworks like the UN Water Action Agenda, EU networks like the Urban Water Atlas, and philanthropic funders increasingly support youth-led, culturally embedded approaches. Fostering this shift in mainstream governance means forging alliances across institutions, civil society and youth networks like WU, and rethinking how planning, education and public health are structured. What if water literacy were taught alongside math? What if drowning prevention had the same urgency as traffic safety? What if young people shaped water systems now, not just in the future? These are not rhetorical questions. They expose the limits of technocratic models and call for more democratic, creative and just approaches. WU does not offer a single blueprint but a flexible, locally rooted model that integrates sport, education and civic engagement – and offers, amid growing pressures, not just reform but hope grounded in care, lived experience and shared responsibility.

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